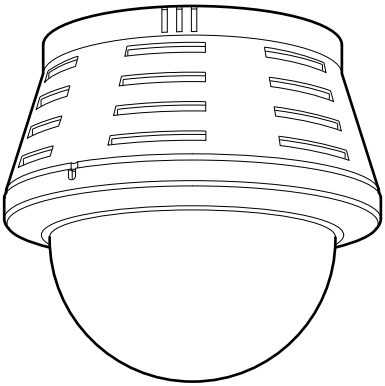
JVC

FIXED IP DOME CAMERA

VN-C215V4U INSTRUCTIONS



For Customer Use:
Enter below the Serial No. which is located on the body.
Retain this information for future reference.

Model No. **VN-C215V4U**

Serial No.

Thank you for purchasing this JVC product.
Before beginning to operate this unit,please read the instructions
carefully to ensure the best possible performance.

LST0526-001A

Safety Precautions

FOR USA
These are general IMPORTANT SAFEGUARDS and certain items may not apply to all appliances.

IMPORTANT SAFEGUARDS

1. Read all of these instructions.
2. Save these instructions for later use.
3. All warnings on the product and in the operating instructions should be adhered to.
4. Unplug this appliance system from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
5. Do not use attachments not recommended by the appliance manufacturer as they may cause hazards.
6. Do not use this appliance near water - for example, near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, etc.
7. Do not place this appliance on an unstable cart, stand, or table. The appliance may fall, causing serious injury to a child or adult, and serious damage to the appliance.
   Use only with a cart or stand recommended by the manufacturer, or sold with the appliance. Wall or shelf mounting should follow the manufacturer's instructions, and should use a mounting kit approved by the manufacturer. An appliance and cart combination should be moved with care.
   Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

   PORTABLE CART WARNING
   (symbol provided by RETAC)

   S3125A
8. Slots and openings in the cabinet and the back or bottom are pro-vided for ventilation, and to insure reliable operation of the appliance and to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the appliance on a bed, sofa, rug, or other similar surface.
   This appliance should never be placed near or over a radiator or heat register. This appliance should not be placed in a built-in installation such as a bookcase unless proper ventilation is provided.
9. This appliance should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your home, consult your dealer or local power company. For appliance designed to operate from battery power, refer to the operating instructions.
10. For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it form the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.
11. Do not allow anything to rest on the power cord. Do not locate this appliance where the cord will be abused by persons walking on it.
12. Follow all warnings and instructions marked on the appliance.
13. Do not overload wall outlets and extension cords as this can result in fire or electric shock.
14. Never push objects of any kind into this appliance through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the appliance.
15. Do not attempt to service this appliance yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
16. Unplug this appliance from the wall outlet and refer servicing to qualified service personnel under the following conditions:
    a. When the power cord or plug is damaged or frayed.
    b. If liquid has been spilled into the appliance.
    c. If the appliance has been exposed to rain or water.
    d. If the appliance does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the appliance to normal operation.
    e. If the appliance has been dropped or the cabinet has been damaged.
    f. When the appliance exhibits a distinct change in performance - this indicates a need for service.
17. When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer that have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
18. Upon completion of any service or repairs to this appliance, ask the service technician to perform routine safety checks to determine that the appliance is in safe operating condition.

FOR USA AND CANADA

CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK. DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTSINSIDE.REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash wish arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

INFORMATION (FOR CANADA)
RENSEIGNEMENT (POUR CANADA)

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil num rique de la Classe A est conforme á la norme NMB-003 du Canada.

WARNING (FOR EUROPE):

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Information for USA

This device complies with part 15 of the FCC Rules. Changes or modifications not approved by JVC could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

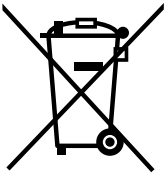
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1)This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

WARNING:
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSETHIS APPLIANCE TO RAIN OR MOISTURE.

AVERTISSEMENT:
POUR EVITER LES RISQUES D'INCENDIE OU D'ELECTROCUTION, NE PAS EXPOSER L'APPAREIL A L'HUMIDITE OU A LA PLUIE.

Due to design modifications, data given in this instruction book are subject to possible change without prior notice.

Safety Precautions (continued)



Attention:
This symbol is only valid in the European Union.

Information for Users on Disposal of Old Equipment

[European Union]

This symbol indicates that the electrical and electronic equipment should not be disposed as general household waste at its end-of-life. Instead, the product should be handed over to the applicable collection point for the recycling of electrical and electronic equipment for proper treatment, recovery and recycling in accordance with your national legislation.

By disposing of this product correctly, you will help to conserve natural resources and will help prevent potential negative effects on the environment and human health which could otherwise be caused by inappropriate waste handling of this product. For more information about collection point and recycling of this product, please contact your local municipal office, your household waste disposal service or the shop where you purchased the product.

Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

(Business users)

If you wish to dispose of this product, please visit our web page www.jvc-europe.com to obtain information about the take-back of the product.

[Other Countries outside the European Union]

If you wish to dispose of this product, please do so in accordance with applicable national legislation or other rules in your country for the treatment of old electrical and electronic equipment.

Dear Customer,
This apparatus is in conformance with the valid European directives and standards regarding electromagnetic compatibility and electrical safety.

European representative of Victor Company of Japan Limited.is:
JVC Technology Centre Europe GmbH
P.O.Box 10 05 52
61145 Friedberg
Germany

Sehr geehrter Kunde, sehr geehrte Kundin,
dieses Gerät stimmt mit den gültigen europäischen Richtlinien und
Normen bezüglich elektromagnetischer Verträglichkeit und elektrischer Sicherheit überein.

Die europäische Vertretung für die Victor Company of Japan, Limited ist:
JVC Technology Centre Europe GmbH
Postfach 100552
61145 Friedberg
Deutschland

- This installation should be made by a qualified service person and should conform to all local codes.
- This installation shall be in accordance with the National Electrical Code, ANSI/NFPA 70.
- The unit is to be powered by an DC 12 V power supply.
- The DC 12 V power supply should conform to the following: Class 2 only (For USA), Isolated power supply only (For Europe and other).
- Any Mention in this manual of Alarm inputs/ outputs have not been evaluated by UL to be used for Burglar Alarm Functionality.
- Embedding of cameras in the ceiling may not be allowed due to regulations in some regions. Please consult your nearby authorized JVC dealer for more details.
- The ceiling to mount the camera has to be strong enough to support the weight of this product. If the ceiling is not strong enough, make sure to apply reinforcement to the ceiling before installation.
- The rating label is placed on the side of the camera unit.
- The camera unit may fall if the mounting screws and nuts are not properly tightened.Ensure that the screws and nuts are properly tightened.
- We do not accept liability for any damage to the camera in cases when it is dropped because of incomplete installation due to not observing the installation instructions correctly. Please be careful when installing the camera.
- Do not install the camera near lighting equipment with a high temperature, such as spotlights. Doing so may cause malfunction or fire.

- Before starting an important recording, be sure to perform a test recording in order to confirm that a normal recording is possible.
- We will not provide any compensation whatsoever for the contents to be recorded or loss of opportunities when recording is not properly performed due to malfunction of the video camera, VTR, hard disk recorder or video tape.
- Prior to adjusting the shooting direction of the camera, touch the metal surface of the [MONITOR] terminal with your hand to discharge static electricity from your body.

This manual describes detailed usage of VN-C215V4U.

For basic usage of VN-C215V4U, please refer to ASTART-UP GUIDEB.

For latest information, please refer to "Readme" file in the supplied CD-ROM.

- The supplied CD-ROM includes [INSTRUCTIONS (this manual)] (pdf), [API Guide] (pdf) and [Search Tool].

Main Features

■ High Picture Quality

The camera unit of VN-C215V4U employs a 380,000-pixel CCD (1/4") which enables high quality image monitoring.

■ Wide shooting range

The adjustment range of the shooting direction is wide and the camera can be mounted on a wall with the use of a rotation adjustment mechanism.

■ Unblocked Design

The dome-shaped design enables ease of use without being blocked by the camera.

■ Embed in ceiling without use of brackets

The camera unit can be embedded in the ceiling without the use of recess brackets.

■ High-power varifocal lens

The built-in varifocal lens (optical zoom 3.6x) makes detailed surveillance possible.

■ Night surveillance

VN-C215V4U comes with a low luminance feature (Easy Day and Night), which switches automatically to the high sensitivity mode (black-and-white) under low illumination.

■ Support for PoE (Power over Ethernet)

VN-C215V4U supports PoE (IEEE802.3af) and enables power supply from a LAN cable.

■ Realization of Full Frame Rate

Data transmission is possible in VGA size at a rate of 30 fps.

■ Built-in Web Server

Setting is possible using the Internet Explorer.

■ Support for Multicast

VN-C215V4U supports multicast, which enables transmission of an image data to multiple computers on the network without lowering the frame rate.

■ Motion Detection Feature

This feature enables output of an alarm upon detection of motion in the image within a preset area.
Pre-recorded/post-recorded image files can be sent via FTP using the alarm input.

■ Built-in Viewer

Monitoring via a computer is possible by downloading the built-in viewer onto the computer.

■ HTTP-based API

VN-C215V4U comes with a HTTP-based API. This feature enables setting and control via the network.

How to view this manual

■ Symbols used

Note : Describes items concerning the operation of this product.

Memo : Describes reference information, such as functions and usage restrictions of this product.

☞ : Indicates the reference page numbers and reference items.

■ About the contents of this manual

- All rights reserved by JVC. Unauthorized duplication or reprinting of this manual, in whole or in part, is strictly prohibited.
- Windows is a registered trademark of Microsoft Corporation in the U.S.
- All other product names used in this manual are trademarks or registered trademarks of their respective companies. Note that marks such as ™, ® and © have been omitted in this manual.
- Illustrated designs, specifications and other contents of this manual are subject to change for improvement without prior notice.

Contents

Introduction

Safety Precautions 2
Main Features 6
Contents 7
Operating Environment 8
Cautionary Notes 8
Name and Function of Parts 10
Features 14

Setup

Overall Procedures 16
Mounting the Camera 16
Before Mounting 16
Mounting on a ceiling 17
Mounting the camera directly on a ceiling or alongside a wall 20
Mount by allowing the cable to exit from the side 22
Mounting the camera to the electrical box 22
Power Connection 24
Using the PoE 24
Connecting to the DC12 V power supply 25
LAN Cable Connection 26
Alarm Input/Output Cable Connection 26
Image adjustment 27
Mounting the Dome Cover 29

Setting

Network Requirements 30
IP Address Settings 31
Setting Using Internet Explorer 37
Enter user name and password 38
JPEG View Page 40
Camera Page 42
Encoding Page 44
Alarm Page 46
Alarm Environment Page 48
Motion Detection Page 51
Basic Page 53
Details Page 55
Streaming Page 56
Access Restrictions Page 58
Time Page 60
Password Page 61
Maintenance Page 62
List of Factory Settings of Each Page 63
Miscellaneous Page 65
Operation Page 66
Settings Page 67

Operation

Operation of Built-in Viewer 70
Setting Up the Internet Explorer 71
Installing the built-in viewer 73
Screen Configuration of Built-in Viewer 74
Built-in Viewer Settings 76
Quitting the Built-in Viewer 79
Shortcut for Built-in Viewer 80

Others

Troubleshooting 81
Specifications 83

Operating Environment

■ PC Specification Requirements

OS	: Windows XP (Professional or Home Edition) (SP2)
CPU	: Pentium4 1.5 GHz (or higher)
Memory	: 1 GB and above
Hard disk space	: Free space of 20 MB and above
Video card	: 1024× 768 pixels or higher, True Color (24 or 32 bits)
Web browser	: Internet Explorer Version 6.0

■ LAN Environment

- 10BASE-T/100BASE-TX network interconnected using an IEEE802.3-compliant switching hub.
- IEEE802.3af-compliant switching hub when PoE is in use.
- IGMPv2-compliant network when multicast is in use.

Memo:

- The above PC specifications are merely guides for smooth use of the applications, and not a guarantee of their operation.
- Depending on the condition of use, applications may not run smoothly even when the user's computer meets the specification requirements.

Cautionary Notes

Maintenance and operating environment

- This camera is intended for use indoors. It cannot be used outdoors.
- Do not store in the following environments. It might result in malfunctions or failure.
  - Hot or cold locations beyond the surrounding temperature range of -10°C to 50°C.
  - Locations beyond the allowable operating humidity range of 35 %RH to 85 %RH. (condensation is not allowed)
  - Near equipment that produces strong magnetic fields, such as transformers or motors.
  - Near equipment that emits radio waves, such as transceivers and mobile phones.
  - Locations with excessive dust and sand.
  - Locations that are subject to excessive vibration.
  - Locations prone to moisture such as window side.
  - Locations subject to steam or oil, such as kitchens.
  - Locations that emit radiation, X-rays or corrosive gases.
- Use of this product and cables connected to this product at locations where strong electric waves and magnetic waves are generated (e.g., near radio, TV, transformer, monitor, etc.) may cause noise interferences in the images or changes in the color.
- Do not install at locations where cold air is circulated, such as near the air vent of an air conditioner. The drastic change in temperature may fog up the dome cover.
- Do not install at locations that may trap heat. This product also discharges heat from the surface of the main unit. As such, do not install it at locations that may trap heat, such as wall corners.

Handling of Equipment

- Do not block vents around the equipment. Inadequate heat ventilation may result in malfunction of this product. Be sure not to block vents around the product.

Others

- This product has a built-in AGC circuit. When AGC is "On", the product sensitivity increases automatically at dark places and the image on the screen may appear grainy. This is not a malfunction.
- When White Balance is set to "Auto", the principle of automatic tracking white balance circuit may cause the color of the image to be different from the actual color of the object, depending on the condition of the object. However, this is not a malfunction.
- If a high-intensity object (such as a lamp) is shot, vertical lines may appear on the image (smear phenomenon) or blurring may occur around the high-intensity object (blooming phenomenon). This is a CCD characteristic and is not a malfunction.
- The electronic shutter of this product is set to 1/60 by default. To prevent flickering under fluorescent lighting (except inverter illumination) in a location with commercial power frequency of 50 Hz, switch the shutter speed to 1/100. (The sensitivity decreases a little when the shutter speed is 1/100.)
- When Easy Day and Night is set to "On", the image becomes black and white in dark locations. As the sensitivity is increased at this time, the screen may appear grainy and white spots may also increase. In addition, when color images are changed to black and white, bright areas of the screen are emphasized and they may be difficult to see. However, this is not a malfunction.
- The image may be distorted or be mixed with noises when the power voltage is cut off instantaneously or is lowered by a lightning strike or by switching on an air conditioner.
- The rotation angle of this product is set to wide angle to support wide range equipment. When the lens zoom is wide and the tilt angle is approximately ±80 °, the rotation angle may cause the dome cover to be reflected in the image. In this case, adjust the field angle if required. (☞ Pg. 29)
- When multicast is in use, use the IGMPv2-compliant network switch.
- Electricity can be supplied to this product either by using the PoE or connecting to the DC12 V power supply. Make sure to select only one mode of electrical supply. Connecting the power cable and the LAN cable for the PoE at the same time may result in failure or malfunction of the camera. (☞ Pg. 24, 25)

Copyrights of video

- With the exception of the user being the copyright holder or when permission has been granted concerning duplication, etc. by the copyright holder, permission is required in principle for the duplication, modification, transmission, etc. of copyrighted video/audio. Unauthorized duplication, modification, transmission, etc. of copyrighted material may constitute a copyright infringement and the user may be liable to compensate for any damages. When using copyrighted video/audio, be sure to check thoroughly the license agreement, etc. of the copyrighted material.
  When there are rights or rights holders of the duplicating subject, permission may be required for shooting or using (processing) it. Be sure to check thoroughly the licensing conditions.

Maintenance

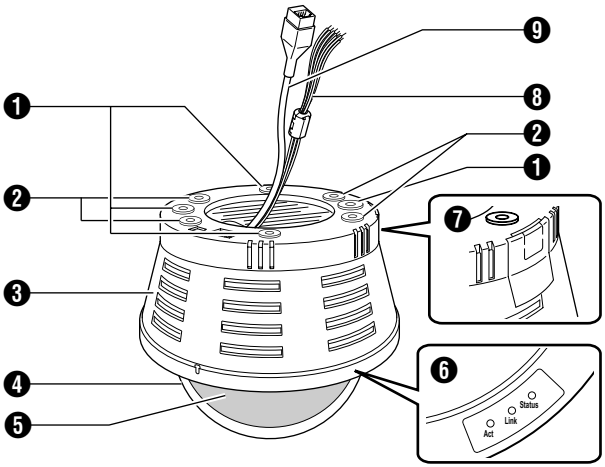
- Be sure to turn off the power before performing maintenance.
- Wipe using a soft cloth.
  Wiping with thinner or benzene may dissolve or tarnish its surface. For dirt that cannot be easily removed, wipe using a neutral detergent diluted with water, followed by wiping with a dry cloth.

Saving Energy

- When not in use for a long period, turn off the power of the system to prevent risk and to reduce power consumption.

Name and Function of Parts

Camera unit



❶ Mounting hole (elliptical) × 4
Use these when mounting the camera to the electrical box.
(☞ Pg. 22)

❷ Mounting hole (round) × 4
Use these when mounting the camera to the ceiling or wall. (☞ Pg. 20)(☞ Pg. 22)

❸ Outer case
Use this in the following cases:
- When mounting the camera directly to the ceiling or on the wall.(☞ Pg. 20)
- When mounting the camera to the electrical box. (☞ Pg. 22)

❹ Dome cover
The dome cover is fragile. Take care when handling it.

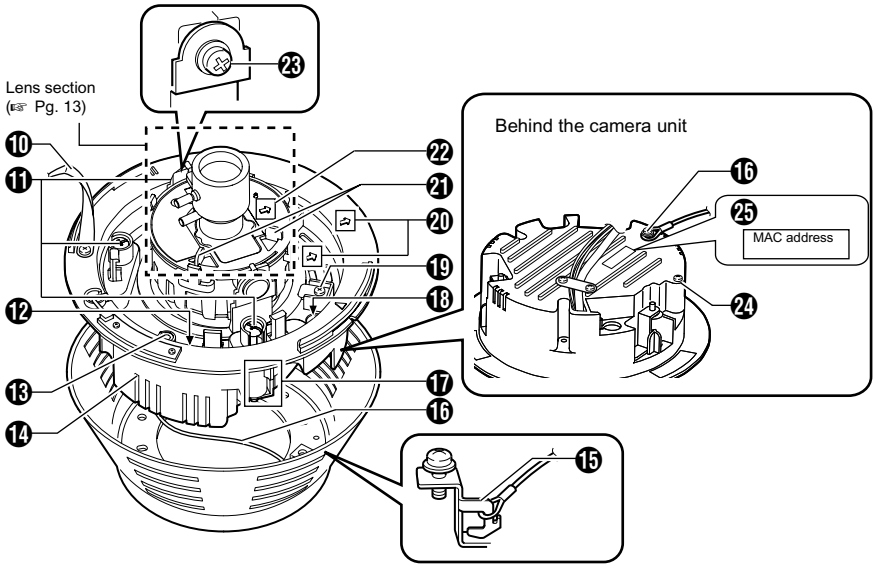
❺ Inner dome
Before mounting the camera, remove it and perform image angle setting.
(☞ Pg. 18)(☞ Pg. 20)

❻ Operation check indicator
[Status] Status indicator
This indicator appears blinking when the power is turned on and turns off when the camera startup is completed. Check the camera or the connected device if the indicator remains blinking when the camera is in use.
[Link] Link indicator
This indicator lights up when the camera is linked or connected to the network.
[Act] Activity indicator
This indicator lights up during an activity such as data transmission or reception.

❼ Cable ejector hole
This is used for pulling cables from the side of the camera unit without drilling a hole in the ceiling.
(☞ Pg. 22)

Camera unit/Inside the camera

※ This is when the dome cover, inner cover and outer case is removed.
How to remove (☞ Pg. 17『Mounting on a ceiling』Steps **3.** to **5.**)



❽ Power supply/Alarm signal cable
(☞ Pg. 24, 26)

Signal name	Cable color
Alarm input 1	Pink
Alarm input 2	Blue
Alarm output 1	Orange
Alarm output 2	Yellow
GND	Brown
DC 12 V power supply+	Red
DC 12 V power supply-	Black

Note:
- Do not use PoE together with DC 12 V power supply. Simultaneous connection will cause failure or malfunction.

❾ [10BASE-T/100BASE-TX(PoE)] Connector for LAN cable connection (RJ-45)
(☞ Pg. 26)

❿ Strap
This sheet connects the camera unit to the dome cover.

⓫ Fastening screw (x3)
This is the screw head of the ceiling mounting bracket ⓱, which is used to embed the camera in the ceiling.

⓬ [RESET] Reset button
This is a button for rebooting the camera. Press this button and release within 5 seconds to reboot the camera. It takes about 1 minute for the camera to reboot. During startup, [RESET] button is disabled.

Note:
- Pressing the [RESET] button for 5 seconds or longer switches the camera to the service verification mode. Do not press the button for 5 seconds or longer.

⓭ [MONITOR] Monitor terminal (RCA pin)
(☞ Pg. 27)

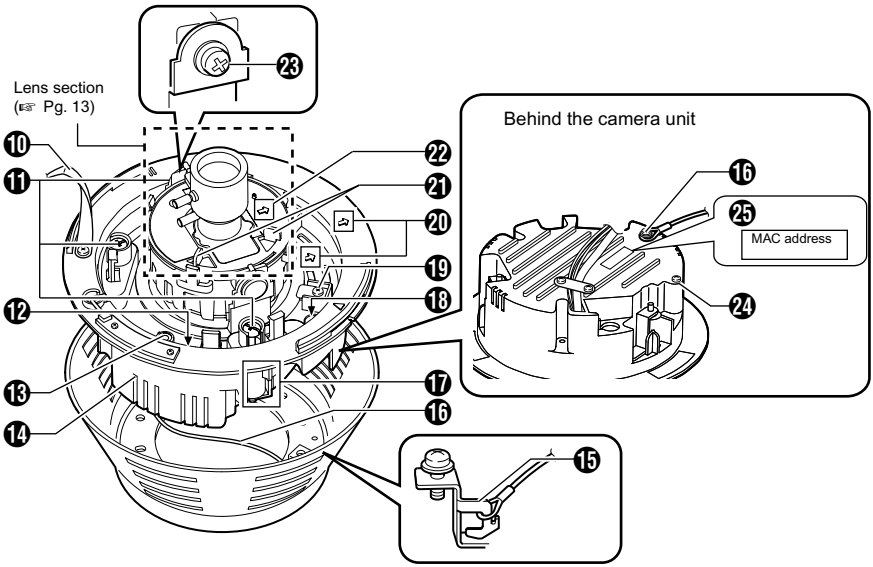
⓮ Camera unit

⓯ Fall-prevention wire fastening hook

⓰ Fall-prevention wire (supplied) and wire mounting screw
Connect the camera unit ⓮ and the outer case ❸ with the fall-prevention wire fastening screw ⓯.

Name and Function of Parts (continued)

Inside the camera



⓱ Ceiling Mount Bracket (x3)
This serves as a bracket when embedding the camera in a ceiling. (☞ Pg. 17)

⓲ Camera Fastening Screw
This secures the camera unit ⓮ and the outer case ❸. How to remove (☞ Pg. 18, 20)

⓳ Pan fastening screw
Make sure you loosen the screw before setting. Only tighten the screw when using the camera in locations with vigorous vibrations so that the camera shooting direction is not misaligned. (☞ Pg. 28)

⓴ Imaging Direction mark
Install the camera facing the arrow in the shooting direction.

㉑ Rotation Knob
This knob rotates the lens sections and adjusts the tilting of the image. (☞ Pg. 28)

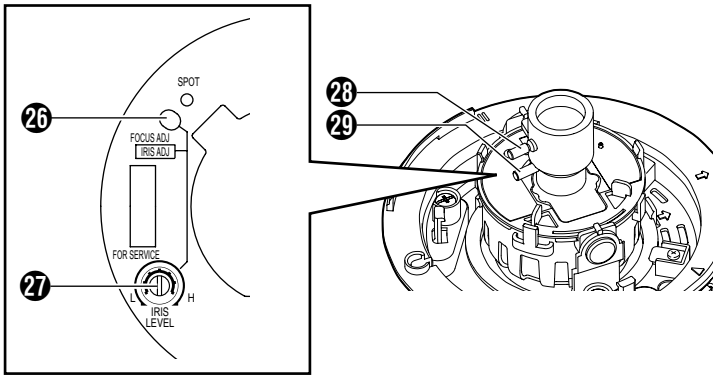
㉒ Rotation center mark
(☞ Pg. 28)

㉓ Tilt fastening screw
After adjusting the field angle, tighten the screw so that the camera field angle will not be misaligned when using the camera in locations with vigorous vibrations. (☞ Pg. 28)

㉔ Fall-prevention wire mounting hole and screw
This is used to mount the fall-prevention wire from the ceiling.
(The fall-prevention wire is not supplied.)

㉕ [MAC address] MAC address indicator
The MAC address is a unique physical address of the product. This address cannot be altered.

Lens section



26 [FOCUS ADJ] Focus adjustment button

This is used to adjust the lens focus.
Press the button to open the lens Iris for 30 seconds. The focus is now easier to adjust as the depth of field becomes shallow. (☞ Pg. 29)

Memo:

- Pressing the focus adjustment button automatically activates the electronic shutter. The screen may flicker but this is not a malfunction.

27 [IRIS LEVEL] Iris level adjustment dial

This dial adjusts the Iris level of the auto iris lens.
Normally, adjustment is not required. Adjust if required, depending on the conditions of the object.

To darken : Anti-clockwise direction (towards L)
To brighten : Clockwise direction (towards H)

Memo:

- Adjust the Iris level after [AGC] is set to "Off". (☞ Pg. 43)
- If "Off" is not set, turning the dial towards L will activate the AGC function. The camera sensitivity increases and the image quality becomes grainy.

28 Focus adjustment ring

Move the ring horizontally to adjust the focus. (☞ Pg. 29)

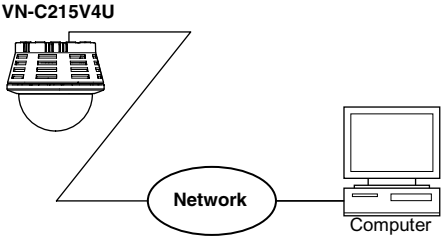
29 Zoom adjustment ring

Move the ring horizontally to adjust the field angle. (☞ Pg. 29)

Features

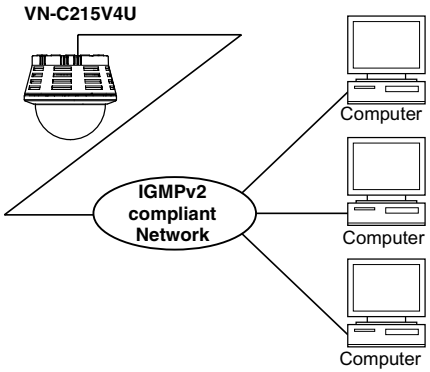
Monitoring Via Built-in Viewer

VN-C215V4U comes with a built-in ActiveX viewer.
Monitoring of VN-C215V4U images using the computer is possible by installing this built-in viewer on the computer. Images that are currently displayed may also be captured in the computer's hard disk.
"Operation of Built-in Viewer" (☞ Pg. 70)



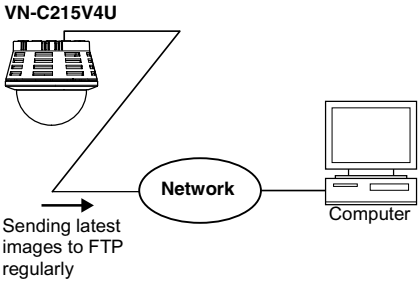
Monitoring Via Multicast

Monitoring using multiple computers is possible via multicast.
"Streaming Page" (☞ Pg. 56)
"Built-in Viewer Settings" (☞ Pg. 76)



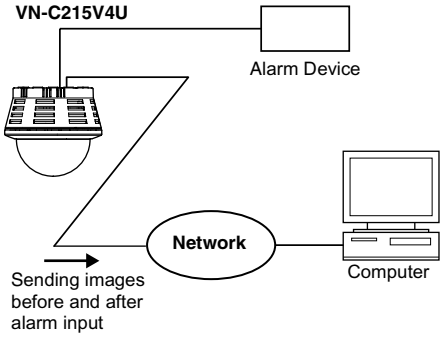
Saving JPEG images to the FTP server at regular intervals

JPEG images may be uploaded to the FTP server at regular intervals.
"FTP" (☞ Pg. 49)



Alarm

VN-C215V4U comes with a motion detection feature and dual alarm input.
By motion detection or alarm input, action such as mail delivery, message transission via TCP/UDP, alarm output can be triggered.
Combination of alarm inputs can be trigger.
Installing an FTP server enables uploading of images before and after the alarm input time (pre-/post-recording) to the server.
"Alarm Page" (☞ Pg. 46)
"Built-in Viewer Settings" (☞ Pg. 76)



Restrictions on Clients

It is possible for VN-C215V4U to permit or deny image acquisition of designated IP addresses. (☞ Pg. 58)

Control via customized application software

The following uses are also possible by developing a customized application software that supports the API of VN-C215V4U.
For details, please refer to the [API Guide] in the attached CD-ROM.

- Monitoring via the computer while at the same time recording images to the HDD.
- Recording by changing the frame size/frame rate during alarm occurrence.
- Recording the type and time of alarm occurrence to the computer.

Overall Procedures

The connection and setup procedures are described as below.

- Make sure you touch the metal surface of the [MONITOR] terminal to release the static electricity from your body. Static electricity may cause the camera to malfunction.

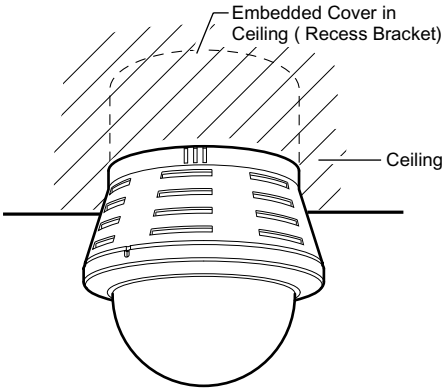
Step 1	**Setup (☞ Pg. 16)** Mount the camera and configure image settings.
▼	
Step 2	**Network Settings (☞ Pg. 30)** Configure the network settings of the computer and this camera.
▼	
Step 3	**Internet Explorer Settings (☞ Pg. 37)** Configure the picture quality and alarm settings using the Internet Explorer.
▼	
Step 4	**Operation of Built-in Viewer (☞ Pg. 70)** Monitoring and still image saving operations are possible using the built-in viewer.

Mounting the Camera

Before Mounting

Note:

- Make sure you put on protective glasses to protect your eyes from falling objects when mounting the camera on the ceiling.
- Attachment of a embedded cover in the ceiling (recess bracket) may be mandatory in certain regions.
- If this is so, ensure that the embedded cover (recess bracket) is securely attached before installing the camera.
- Please refer to the instruction manual for the cover in use for details on installation of the embedded cover (recess bracket).
- For detail related to embedded cover (recess bracket), please contact JVC.



Selecting Mounting Method

The procedures differ according to the mounting method. Check the respective items before mounting.

Note:

- To mount the camera using an electrical box, please check with your dealer or nearest JVC servicing center.

Mounting Method

- **Mounting on a ceiling (☞ Pg. 17)**
- **Mounting directly on a ceiling or alongside a wall (☞ Pg. 20)**
- **Mounting by pulling cables horizontally (☞ Pg. 22)**
- **Mounting the camera to the electrical box (☞ Pg. 22)**

Warning

- Special attention is required when mounting the camera to a wall or ceiling. Mounting operations should not be carried out by the users but by professional contracters. Failure to do so may cause the camera to fall and result in injuries and accidents.
- JVC is not liable for any compensation if you drop the camera due to insecure mounting by not following the installation description. Pay careful attention during installation.
- To prevent the camera from falling, ensure that it is connected to a firm place (ceiling slab or channel) using a fall-prevention wire.
- Also pay careful attention to the length, strength, wiring and material (insulation quality) of the fall-prevention wire to be used.
- The camera may drop if the mounting screws or nuts are not tightened securely. Check that the screws are tightened appropriately and securely.
- Do not install the camera near lighting fixtures of high temperature, such as spot lights. It might result in failure or fires.

Mounting on a ceiling

※ The thickness of the ceiling material should be between 9.5 mm and 22 mm.

■ Setup

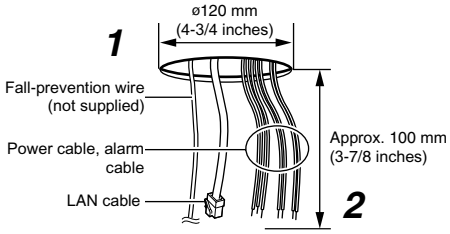
1. Open a hole in the ceiling (ø120 mm,4-3/4 inches)

2. Draw the cables from the ceiling.

Draw the fall-prevention wire, LAN cable, power cable and alarm cable from the ceiling. These are mounted beforehand on the ceiling slab. (The fall-prevention wire is not supplied.)

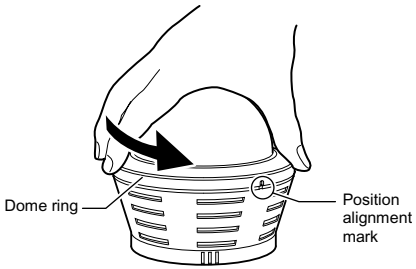
Note:

- Also pay careful attention to the length, strength, wiring and material (insulation quality) of the fall-prevention wire to be used.
- For the fall-prevention wire, the inside diameter of the ring section to be mounted on the camera unit should be between ø3.1 mm and ø5.5 mm, and the outside diameter should be below ø9 mm.



3. Remove the dome cover

As shown in the picture, hold the dome ring such that the position alignment mark is between your thumb and index finger. Turn the dome ring in the anti-clockwise direction and remove.



Mounting the Camera (continued)

Mounting on a ceiling (continued)

4. Remove the inner dome.

The inner dome is secured by 3 clips. Remove the inner dome from the clips.

5. Remove the outer case.

(The outer case is not used for this mounting method.)

① Loosen the camera fastening screws with a screwdriver.

② Turn the camera in the anti-clockwise direction and remove the outer case.

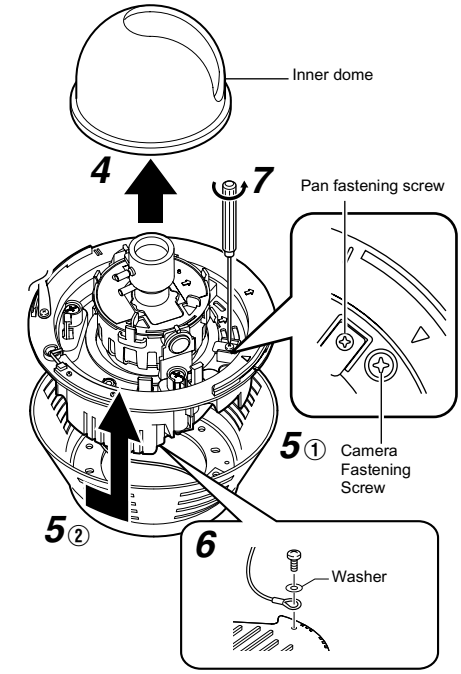
6. Remove the fall-prevention wire.

Remove the fall-prevention wire that is attached to the camera unit.

7. Loosen the pan fastening screw.

Note:

- The lens section may be damaged if you operate it without loosening the pan fastening screw.



■ Connection

1. Mount the fall-prevention wire on the camera. This wire connects the camera to the ceiling.

2. Connect the LAN cable. (☞ Pg. 26)

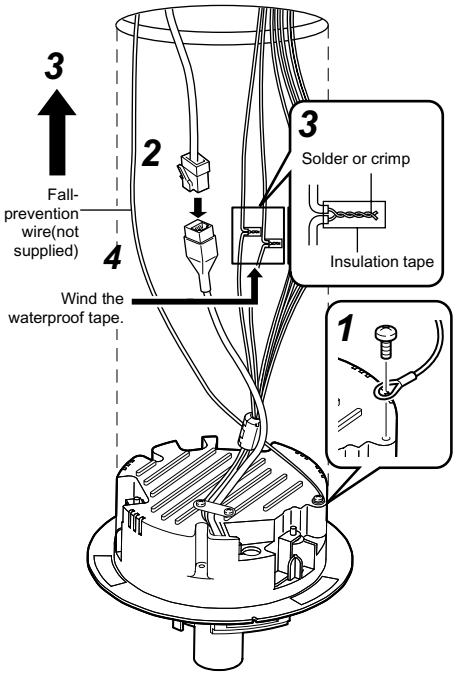
3. Connect the power cable and the alarm cable. (☞ Pg. 24, 26)

Memo:

- The power cable must not be connected when PoE is used.

4. Wind the waterproof tape.

5. Insert the camera in the ceiling hole.



■ Mounting

1. Face the imaging direction mark (⇧) in the shooting direction and mount the camera.

2. Secure the camera in 3 locations.

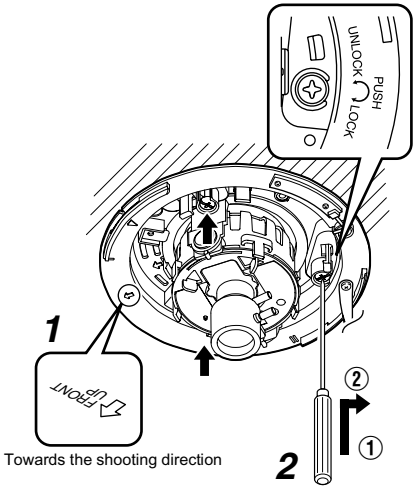
① Use a cross slot screw driver to push the screw head of the ceiling mounting bracket right in.

② While holding onto the screwdriver, turn it approximately 90 degrees in the clockwise direction. Pull out the screwdriver when it stops.

③ The ceiling mounting bracket is lodged on the ceiling and the camera is secured.

Memo:

- To remove the camera, turn the screw head of the ceiling mounting bracket (3 locations) 90 degrees in the anti-clockwise direction.



■ Image adjustment

When the camera is mounted, adjust the image settings while looking at the actual image.
(☞ Pg.27『Image adjustment』)

■ Mounting the Dome Cover

After the image adjustment is completed, mount the dome cover.
Installation is complete when the dome cover is mounted.
(☞ Pg.29『Mounting the Dome Cover』)

Mounting the Camera (continued)

Mounting the camera directly on a ceiling or alongside a wall

To mount on a wall, use the same procedures below but replace the word “ceiling” with “wall”.

■ Setup

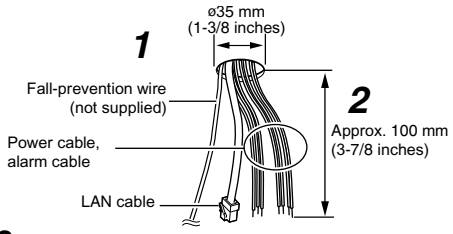
1. Open a hole in the ceiling (ø35 mm,1-3/8 inches)

Use the attached template to drill a hole in the ceiling.

2. Draw the fall-prevention wire, LAN cable, power cable and alarm cable from the ceiling. These are mounted beforehand on the ceiling slab. (The fall-prevention wire is not supplied)

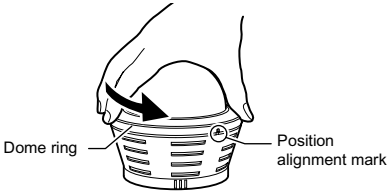
Note:

- Also pay careful attention to the length, strength, wiring and material (insulation quality) of the fall-prevention wire to be used.
- For the fall-prevention wire, the inside diameter of the ring section to be mounted on the camera unit should be between ø3.1 mm and ø5.5 mm, and the outside diameter should be below ø9 mm.



3. Remove the dome cover.

As shown in the picture, hold the dome ring such that the position alignment mark is between your thumb and index finger. Turn the dome ring in the anti-clockwise direction and remove.



4. Remove the inner dome.

The inner dome is secured by 3 clips. Remove the inner dome from the clips.

5. Remove the outer case.

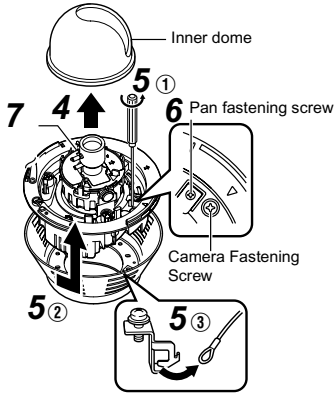
① Loosen the camera fastening screws with a screwdriver.
② Turn the camera in the anti-clockwise direction and remove the outer case.
③ Remove the fall-prevention wire from the fastening hook

6. Loosen the pan fastening screw.

Note:

- The lens section may be damaged if you operate it without loosening the pan fastening screw.

7. Configure image settings. (☞ Pg. 13)



■ Connection

1. Face the imaging direction mark (⇧) in the shooting direction and mount the outer case on the ceiling.

About the outer case mounting screws (not supplied):

- Use a screw head of less than 3 mm.
- The mounting hole of the outer case is ø 4.5 mm.
- Do not use a flat countersunk head screw.
- When using an impact driver, do not tighten right to the end. Tighten with your hand. The outer case may be damaged.

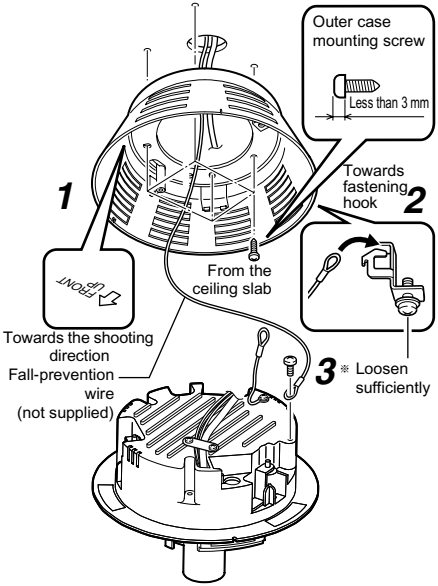
2. Hitch the fall-prevention wire that was removed in Setup step 4 on the fastening hook.

3. Mount the fall-prevention wire on the camera. This wire connects the camera to the ceiling.

(The fall-prevention wire is not supplied.)

Note:

- Tighten all screws securely. Otherwise the camera may come loose and fall.



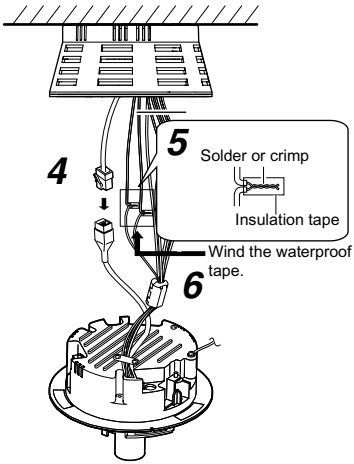
4. **Connect the LAN cable. (☞ Pg. 26)**

5. **Connect the power cable and the alarm cable. (☞ Pg. 24)**

Memo:

- The power cable must not be connected when PoE is used.

6. **Wind the waterproof tape. (☞ Pg. 26)**



■ Mounting

1. **Align the secured outer case with the position alignment mark of the camera.**

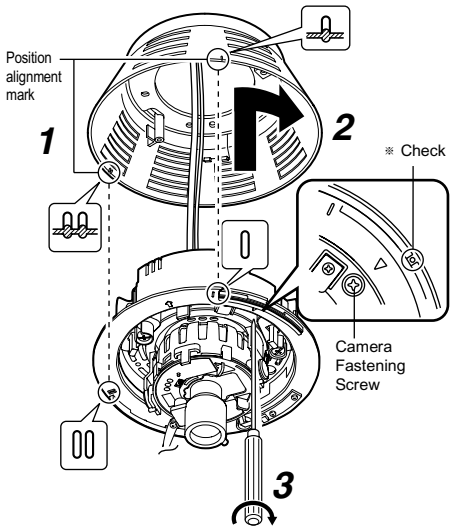
Note:

- Make sure that the cables are not caught in the outer case.

2. **Turn the camera in the clockwise direction.**

※ Check that the ○ mark can be seen. (Refer to the diagram below)

3. **Tighten the Camera Fastening Screws and secure the camera.**



■ Image adjustment

When the camera is mounted, adjust the image settings while looking at the actual image.
(☞ Pg.27『Image adjustment』)

■ Mounting the Dome Cover

After the image adjustment is completed, mount the dome cover.
Installation is complete when the dome cover is mounted.
(☞ Pg.29『Mounting the Dome Cover』)

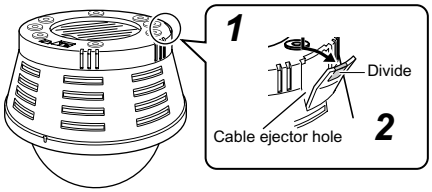
Mounting the Camera (continued)

Mount by allowing the cable to exit from the side

You can also mount the camera on a ceiling or wall by pulling the cables horizontally instead of drilling a hole.

The basic mounting method is the same as 『Mounting the camera directly on a ceiling or alongside a wall』 (☞ Pg. 20).

1. Remove the lid of the cable ejector hole and divide the dotted line section of the lid with a longnose pliers.

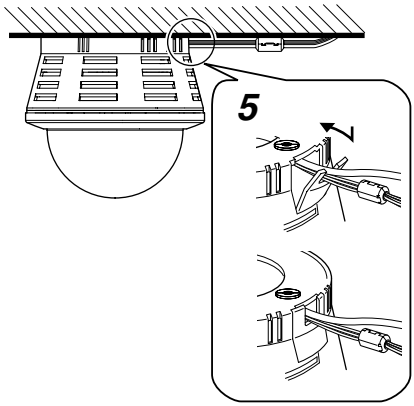


2. Mount the outer case on the ceiling or wall.

3. Pull out the cables from the cable ejector hole.

4. Connect the cables. (☞ Pg. 20)

5. Close the lid of the cable ejector hole.



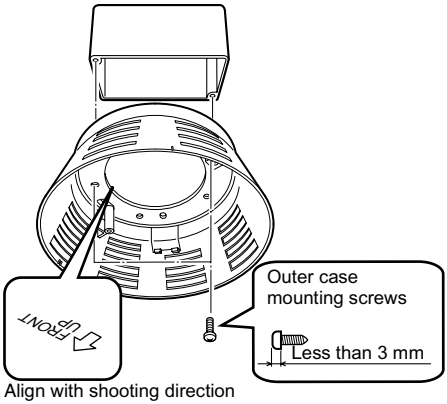
Mounting the camera to the electrical box

Note:

- Before mounting the camera to electrical boxes, please refer to local building codes for box type to use for low-voltage wiring.

■ Connecting

1. Align (⇧) with the shooting direction when mounting the outer case to the electrical box



2. Follow steps 2 to 6 of "Mount by allowing the cable to exit from the side"[Connection] (☞ Pg. 20)

■ Mounting

Attach the camera to the outer case that has been fastened to the electrical box.

1. Follow steps 2 to 6 of "Mount by allowing the cable to exit from the side"[Connection]
(☞ Pg. 20)

■ Image Adjustment

After mounting is completed, adjust the images while checking the actual image.
(☞ Pg.27『Image adjustment』)

Power Connection

Electricity can be supplied to this product either by using the PoE or connecting to the DC12 V power supply.

- When electricity is supplied to the camera, the status indicator blinks, and turns off when startup is complete.

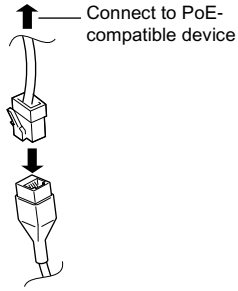
Note:

- Make sure to select only one mode of electrical supply. Connecting the power cable and the LAN cable for the PoE at the same time may result in failure or malfunction of the camera.

Using the PoE

Connect to a device that supports PoE and supply electricity from the LAN cable.

What is PoE (Power over Ethernet)?
This is a function that enables operation of a LAN equipment without a power cable by supplying power simultaneously with the data using a LAN cable.



Memo:

- For details on the connection method and cable type, please refer to "LAN Cable Connection" (☞ Pg. 26).

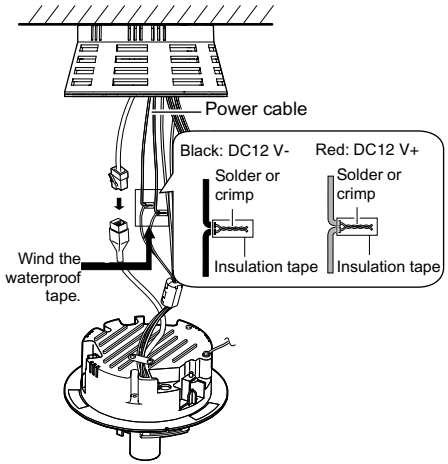
Connecting to the DC12 V power supply

Connect this product to the DC12 V power supply when not using the PoE.
Connect the polarity correctly.

Red : DC12V+
Black : DC12V-

Note:

- Make sure to select only one mode of electrical supply. Connecting the power cable and the LAN cable for the PoE at the same time may result in failure or malfunction of the camera.



Memo:

About the power cable

- When using 2-core VVF (Vinyl-insulated vinyl-sheath cable), the connection distance is as follows: (Reference value)

Maximum extension (m)	**40**	**120**	**190**
Conductor Diameter (mm)	R1.0 and above	R1.6 and above	R2.0 and above

Warning

The rated power of this product is DC12 V. Make sure to use it with the correct voltage. Supplying a power different from the rated value may result in failures and in the worst scenario, smoking and fire.

Memo:

- In a system where multiple units of VN-C215V4U are used, turn on the power of only 1 unit to configure the IP address settings via the Internet Explorer. Upon doing so, turn on the power of the second unit and configure accordingly. Configure the camera settings using the same procedure.
- Whenever duplication of IP addresses occurs, check that there is only one VN-C215V4U under the same LAN environment and wait for at least 10 minutes. Access to VN-C215V4U may be denied unless you restore the power supply of all network devices under the same LAN environment.
- To use AA-P700 in the power supply unit, connect one unit of this product. Also refer to the AA-P700 instruction manual.

LAN Cable Connection

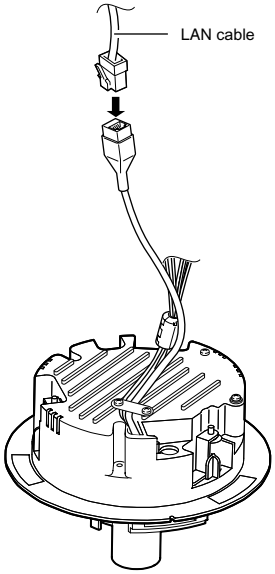
Connect the camera to a hub or computer using a LAN cable.

■ When connecting to a hub

Make use of a straight cable.

■ When connecting to a computer

Make use of a Cross Over cable.



Note:

- Cross cables cannot be used with some computer models. When connecting VN-C215V4U directly to a computer, make sure to check the computer's LAN specifications in advance.

Memo:

- Make use of a Category 5 (or higher) cable in the case of 100BASE-TX.

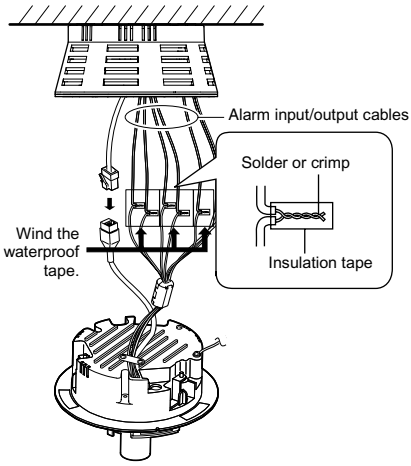
Alarm Input/Output Cable Connection

Connect the alarm input/output cables with external devices such as a sensor, buzzer, etc.

Signal name	Cable color
Alarm input 1	Pink
Alarm input 2	Blue
Alarm output 1	Orange
Alarm output 2	Yellow
GND	Brown

Cable to use

- Length of 50 m or shorter
- UL1007, UL1015 or equivalent products
- AWG#22 - AWG#18 or equivalent products



Note:

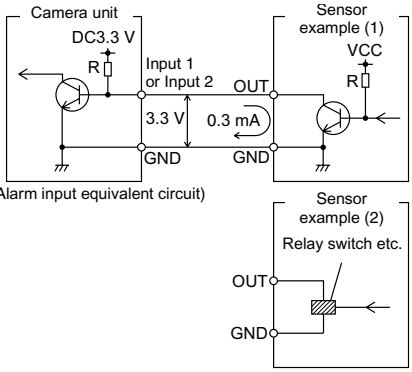
- Noises from an external source may cause malfunctions even when the cable used is shorter than 50 m. In this case, use a shielded cable or move the cable away from the noise source.

Alarm Input

Connect this terminal to sensor devices, such as an infrared sensor, door sensor, metal sensor, manual switch, etc.

■ Input requirements

- No-voltage relay NPN open collector input
- Polarity of input detection can be selected using a software
- Make/Break (500 ms and above)
- Circuit current at low level: 0.3 mA
- Applied voltage at high level: 3.3 V



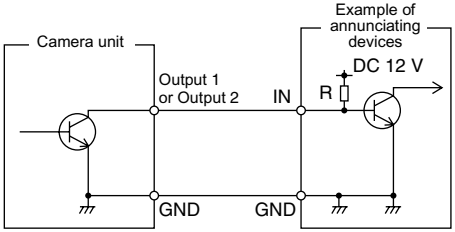
(Alarm input equivalent circuit)

Alarm Output

Connect this terminal to annunciating devices, such as annunciators, indicators, lights, buzzers, etc.

■ Output requirements

- Equivalent to NPN open collector output (Set the output put logic via the Internet Explorer)
- Allowable applied voltage: DC12 V and below
- Allowable inflow current: 50 mA
- Momentary (100 ms - 5000 ms) output (Set time via the Internet Explorer (☞ Pg. 50))



(Alarm output equivalent circuit)

Note:

- Connect the GND cable of this camera to the GND of the annunciating device.

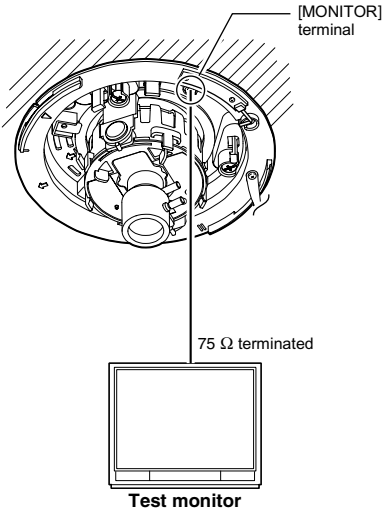
Image adjustment

When the camera is mounted, adjust the image settings while looking at the actual image.

Mounting the test monitor

Connect the [MONITOR] terminal of the camera to the test monitor to adjust the camera shooting direction, field angle and focus.

※ When configuring, turn on the power of the camera.



Test monitor

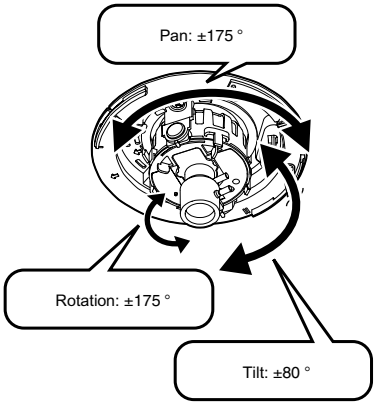
Image adjustment (continued)

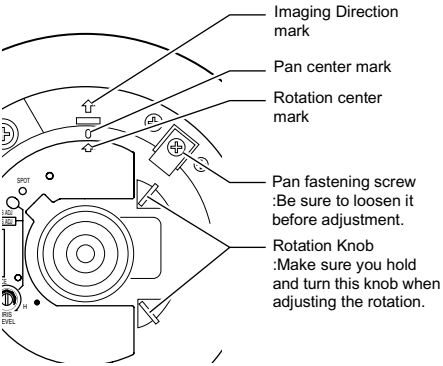
Adjusting the camera shooting direction

This camera can be adjusted for pan, tilt and rotation. Adjust the direction and face the camera towards the object.

Note:

- Make sure you touch the metal surface of the [MONITOR] terminal to release the static electricity in your body before adjusting the camera shooting direction.
- Make sure that the pan fastening screw is loosened before adjusting the camera shooting direction. The lens section may be damaged if you operate it without loosening the pan fastening screw.




Imaging Direction mark
Pan center mark
Rotation center mark
Pan fastening screw :Be sure to loosen it before adjustment.
Rotation Knob :Make sure you hold and turn this knob when adjusting the rotation.

Memo:

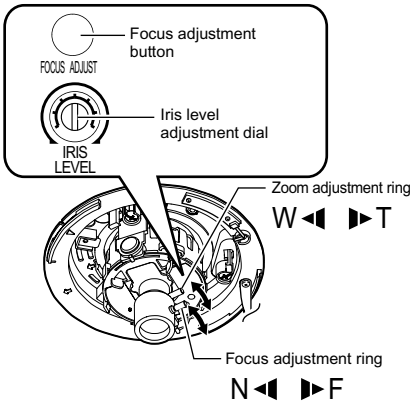
- Rotate both pan and rotation ±175 ° from the positions aligned with the camera imaging direction mark, pan center mark and rotation center mark. Make sure you hold the rotation claps and adjust the rotation without holding the lens section.
- After adjusting the field angle, tighten and secure the tilt fastening screw and pan fastening screw so that the field angle will not be misaligned when using the camera in locations with vigorous vibrations. (☞ Pg. 12)

Note:

- Moving the camera when it has exceeded the adjustment range may cause its performance to deteriorate.
- As the tilt and rotation range of this camera is wide, part of the camera may be reflected in the shooting screen depending on the field angle and direction.
- Do not hold the lens section when adjusting the camera direction. The lens section may be damaged if you apply force to it.

Adjusting field angle, focus and brightness

Once you have decided the shooting direction, you can adjust the field angle, focus and brightness.



Field angle adjustment

Loosen the fastening screw of the zoom adjustment ring, move the ring horizontally and adjust the image size.

Focus adjustment

Press the focus adjustment button. The Iris will open for approximately 30 seconds. Loosen the fastening screw of the focus adjustment ring, move the ring horizontally and adjust the focus.

Memo:

- Repeat「Field angle adjustment」and「Focus adjustment」2 to 3 times and configure the settings.
  After adjustment is complete, tighten and secure the respective fastening screws.
- Pressing the focus adjustment button automatically activates the electronic shutter. The screen may flicker but this is not a malfunction.

Brightness adjustment

Normally, adjustment is not required. If necessary, adjust the Iris level.

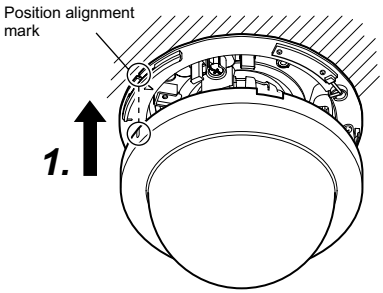
To darken : Anti-clockwise direction (towards L)
To brighten: Clockwise direction (towards H)

Note:

- For adjusting the brightness, do not conduct it within 30 seconds after pressing the focus button.
- When adjusting the iris level, set the AGC function to "Off".(☞ Pg. 43) Otherwise, when the level is turned too far toward L, the AGC function activates increasing sensitivity and the picture may look uneven.

Mounting the Dome Cover

After all settings are complete, mount the dome cover.



1. Mount the dome cover.

Align the camera with the position alignment mark on the dome cover and push in the dome cover to mount.

Note:

- Push in the dome cover until you hear a click sound. Check that it has been securely mounted. Insecure mounting may cause the camera to fall or interfere with the LED (Status, Link, Act) display.
- When the cover is removed again after mounting the dome cover, adjust the field angle.

Network Requirements

- Ensure that there is sufficient network bandwidth for the data volume to be sent out by VN-C215V4U.
- Data volume to be sent by VN-C215V4U varies with the settings and number of distributions.
- The maximum bit rate from VN-C215V4U is about 9 Mbps.

Estimation of total bit rate

The JPEG file size per frame varies with the encoding settings as well as input video signals. The following table may be used as a reference. When VFS is selected, the quantization table during JPEG encoding will be maintained and the file size will increase/decrease according to the input signals. When AFS is selected, encoding will be performed such that the average size of multiple JPEG images is the target file size.

Picture Quality Control Method		VGA File Size	QVGA File Size
VFS (Variable File Size)	1 (High)	80 KB	27 KB
	2	60 KB	20 KB
	3	40 KB	13 KB
	4 (Medium)	30 KB	10 KB
	5	25 KB	8 KB
	6	20 KB	7 KB
	7 (Low)	15 KB	5 KB
AFS (Average File Size)		Selection may be made from the range between 10 and 100 KB	Selection may be made from the range between 3 and 33 KB

VN-C215V4U accepts requests from up to a maximum of 5 clients. In addition, it also allows transmission of 1 multicast stream. The total frame rate refers to the sum of these frame rates. For example, when 10 fps is requested by 2 clients, and in addition multicast is transmitted at a rate of 10 fps, the total frame rate will be:

10 + 10 + 10 = 30 fps

If the JPEG file size per frame is 30 KB, then the total bit rate will be:

30 KB x 30 fps = 900 KB/s = Approx. 7.2 Mbps

Insufficient network bandwidth

When there is insufficient bandwidth, the number of JPEG frames (frame rate) that the client can acquire will decrease.

Network Delay

When the client acquires JPEG via TCP, VN-C215V4U will send out data while checking the ACK from the client at the same time. For networks with considerable delay, data cannot be sent out until ACK is received, and therefore the frame rate will drop.
Drop of frame rate due to network delay can be eliminated by sending data via multicast.

Network Jitter

When there is considerable network jitter, delay time may be prolonged and the image frame rate may drop.

Packet Loss

When acquiring images from VN-C215V4U via TCP, packet loss may be recovered by resending by TCP. When there is considerable delay during resending, however, missing data may occur and the image frame rate may drop. When packet loss occurs during multicast sending from VN-C215V4U, the image frame rate may drop.

List of protocols and port numbers used by VN-C215V4U

VN-C215V4U uses the protocols and port numbers listed below. Ensure that these ports are allowed through the firewall when a firewall is to be installed.

Protocol/Port No.	Purpose of Use
TCP/80	JPEG acquisition, Web Settings page, API
TCP/20, 21	FTP
TCP/25	Mail delivery
TCP/User Setting No.	Alarm sending
UDP/User Setting No.	Alarm sending
UDP/User Setting No.	Multicast sending
UDP /123	SNTP

IP Address Settings

Setting IP address with the default VN-C215V4U settings

There are 2 methods to set the IP address when VN-C215V4U is in its default settings.

(A) Assigning an IP address to VN-C215V4U from the DHCP server

(B) Assigning a static IP address to VN-C215V4U

■ (A) Assigning an IP address from the DHCP server

- VN-C215V4U is set to "DHCP Enable" (the DHCP client function is ON) by default. To assign an IP address from DHCP server, connect VN-C215V4U to LAN with DHCP server, and turn on VN-C215V4U. Allowing the DHCP server to assign the same IP address to VN-C215V4U every time eases access to VN-C215V4U.
- For details on IP addresses assigned to VN-C215V4U, please consult your network administrator.
- You can look up the IP address of VN-C215V4U using the [Search Tool] in the attached CD-ROM.
  For details, please refer to the "Readme" file in the attached CD-ROM.

Note:

- Set the DHCP server such that constant IPaddress is assigned to VN-C215V4U based on the MAC address of VN-C215V4U. Access by clients can fail if the above setting is not performed.

■ (B) Assigning a static IP address

● System configuration required for setting IP address

VN-C215V4U is set to "DHCP Enable" (the DHCP client function is ON) by default. Start VN-C215V4U in LAN without DHCP server. After DHCP timeout, VN-C215V4U starts with the following IP address.

IP address	: 192.168.0.2
Subnet mask	: 255.255.255.0
Default gateway	: None

Memo:

- To set a static IP address for VN-C215V4U, connect VN-C215V4U, switching hub and computer for setting using a straight LAN cable of Category 5 and above.

● Set up the computer for setting the IP address.

- **Minimum computer specifications for setting**

OS	: Windows XP (Professional or Home Edition) (SP2)
Web browser	: Internet Explorer Version 6.0

Note:

- When setting the IP address for VN-C215V4U, do so by using a network that is made up only of VN-C215V4U, the computer for setting and the switching hub.
- Using a hub connected to other network devices can cause problems.

IP Address Settings (continued)

● **IP Address setting at the computer**

Set the computer to an IP address that enables communication with VN-C215V4U.

1. Click [Start]

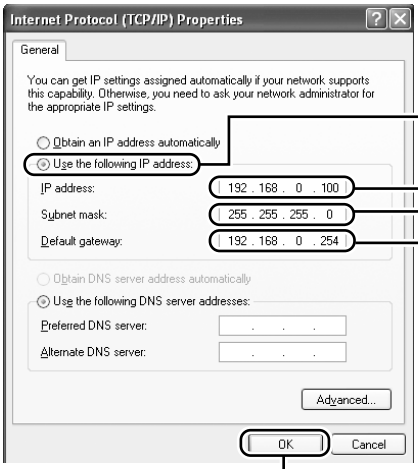
- Select in the order of [Control Panel]−[Network Connection]−[Local Area].

2. The computer with which Internet Explorer is launched automatically selects the connected network

- Right-click and select [Properties].
- Check to ensure that the [Client for Microsoft Networks] and [Internet Protocol(TCP/IP)] check boxes are selected.

3. Select [Internet Protocol(TCP/IP)] and click [Properties].

4. Set the IP address


Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address:
192 . 168 . 0 . 100
Subnet mask:
255 . 255 . 255 . 0
Default gateway:
192 . 168 . 0 . 254
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server:
Alternate DNS server:
Advanced...
OK
Cancel

① Select [Use the following IP adress].

② Set the [IP Address]. (For example, use 192.168.0.100 when VN-C215V4U is in its default settings)

Memo:

- Make sure that you take note of the original IP address before altering.

Note:

- When setting, ensure that a duplicate IP address is not used within the same network environment.

③ Set [Subnet Mask] to a value that is appropriate for the setting operation. Clarify with the network administrator if you have any queries.
(Use 255.255.255.0 when the camera is in its default settings)

④ When a [Default Gateway] is present, make use of the IP address (e.g., 192.168.0.254).

⑤ Click [OK].

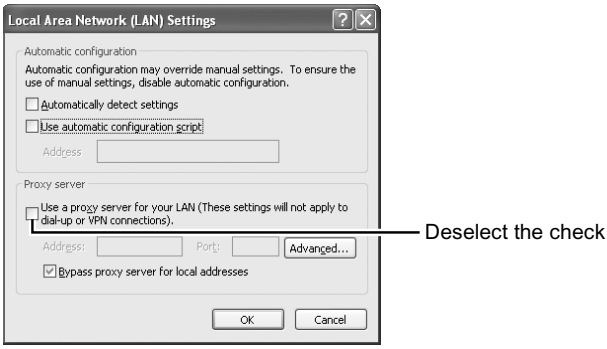
5. Click [OK] on the [Local Area Connection Properties] screen

● **Changing the IP address using the Internet Explorer**

1. Launch the Internet Explorer on the computer

2. When proxy setting is enabled in the Internet Explorer, follow the steps below to disable the proxy of the Internet Explorer

- Select in the order of [Tools]–[Internet Options...]–[Connections]–[LAN Setting], followed by deselecting the check for [Use a proxy server for your LAN] in [Proxy Server] of the [Local Area Network(LAN)Settings] window.

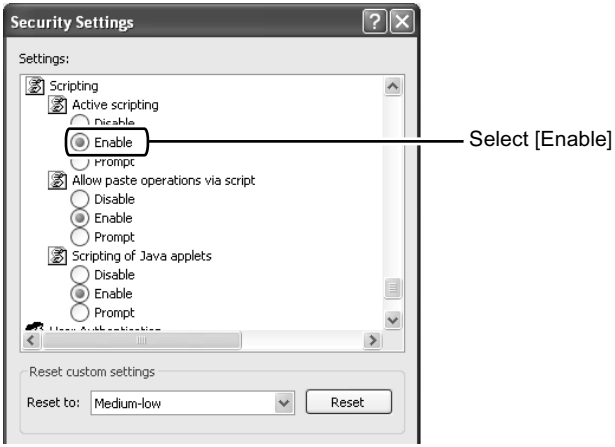

Local Area Network (LAN) Settings
Automatic configuration
Automatic configuration may override manual settings. To ensure the use of manual settings, disable automatic configuration.
Automatically detect settings
Use automatic configuration script
Address
Proxy server
Use a proxy server for your LAN (These settings will not apply to dial-up or VPN connections).
Address:
Port:
Advanced...
Bypass proxy server for local addresses
OK
Cancel
Deselect the check

3. If Active scripting of the Internet Explorer is not set to "Enable", follow the steps below to enable it

- Select [Trusted sites] under [Tools]–[Internet Options...]–[Security]. Upon doing so, the [Sites...] button directly below becomes active. Click on this button and deselect the check for [Require server verification(https:) for all sites in this zone] in the displayed window. Next, add VN-C215V4U web site to the zone.

  Example: http://192.168.0.2

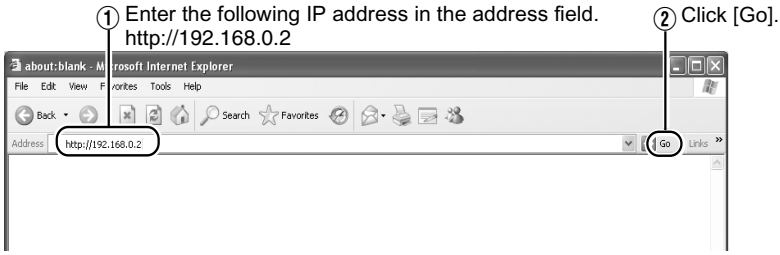
- Next, select [Trusted sites] under [Tools]–[Internet Options...]–[Security], and press the [Custom Level] button. Select [Enable] under [Scripting]–[Active scripting] of the [Security Settings] window that has been opened.



IP Address Settings (continued)

● **Changing the IP address using the Internet Explorer (continued)**

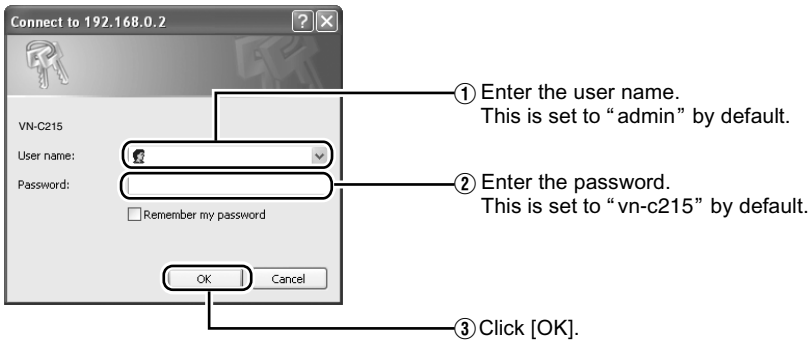
4. Launch the Internet Explorer



Memo:

- If the proxy server setting in Internet Explorer is enabled, you may not be able to specify the IP address directly. In this case, change the proxy settings of the Internet Explorer.
- After the Security Warning screen appears, press the [OK] button to proceed.

5. Enter the user name and password (login as an administrator)



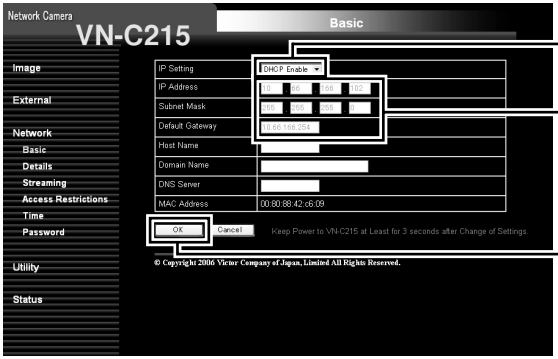
Memo:

- After the Security Alarm screen appears, press the [Yes] button to proceed.

6. The top page of VN-C215V4U appears

Click on [Network], followed by [Basic] on the next submenu.

7. The Basic page with the IP address settings appears



① Set the [IP Setting] item to [DHCP Disable].

② Enter the values you wish to specify in [IP Address], [Subnet Mask] and [Default Gateway].

③ Click [OK].

A confirmation screen appears. Press the [OK] button. The VN-C215V4U restarts using the new IP address. It takes about 1 minute for the camera to reboot.

Memo:

- Access from this computer may fail when the IP address of VN-C215V4U is changed. To enable access to VN-C215V4U from the same computer, alter the IP address at the computer accordingly.

IP Address Settings (continued)

When the IP address of VN-C215V4U is known

When the IP address of VN-C215V4U is known, it can be changed by using Internet Explorer on the computer to access the built-in web page of VN-C215V4U.
See “Setting Using Internet Explorer” (☞ Pg. 37).

When the IP address of VN-C215V4U is unknown

Changing of settings by accessing via a computer is not possible when the IP address of VN-C215V4U is unknown.
In this case, you can know the IP address using the following method.

- The attached CD-ROM comes with a search tool. Using this tool enables you to look up VN-C215V4U within the LAN.
  For details on the search tool, please refer to the “Readme” file in the attached CD-ROM.

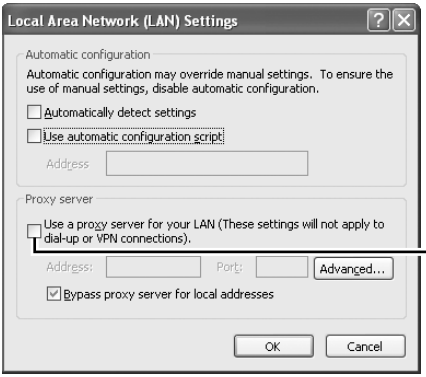
Setting Using Internet Explorer

Setup

1. Launch the Internet Explorer on the computer

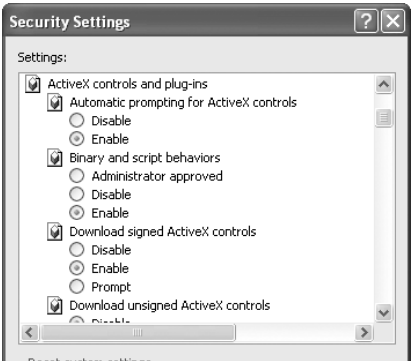
2. When proxy setting is enabled in the Internet Explorer, follow the steps below to disable the proxy of the Internet Explorer

- Select in the order of [Tools]–[Internet Options...]–[Connections]–[LAN Setting], followed by deselecting the check for [Use a proxy server for your LAN] in [Proxy Server] of the [Local Area Network(LAN)Settings] window.


Local Area Network (LAN) Settings
Automatic configuration
Automatic configuration may override manual settings. To ensure the use of manual settings, disable automatic configuration.
Automatically detect settings
Use automatic configuration script
Address
Proxy server
Use a proxy server for your LAN (These settings will not apply to dial-up or VPN connections).
Address:
Port:
Advanced...
Bypass proxy server for local addresses
OK
Cancel
Deselect the check

3. If Active scripting of the Internet Explorer is disabled, follow the steps below to enable it

- Click [Trusted sites] under [Tools]–[Internet Options...]–[Security]. Click on the [Sites...] button directly below, followed by deselecting the check for [Require server verification(https:) for all sites in this zone] in the displayed window. Add VN-C215V4U web site to the zone.
  Example: http://192.168.0.2
- Click [Trusted sites] under [Tools]–[Internet Options...]–[Security]. Select the [Custom Level] button and open the [Security Settings] window.
- From the opened window, set all the items in [Active X controls and plug-ins] to [Enable].



Setting Using Internet Explorer (continued)

Setup (continued)

4. Disabling pop-up block

Connection of VN-C215V4U cannot be established when pop-up block in the Internet Explorer is set to "Enable".
Follow the steps below to set the pop-up block to "Disable".

- Selecting [Tools]-[Pop-up Blocker]-[Turn Off Pop-up Blocker] permits all sites.
- To allow only specific sites such as VN-C215V4U, select [Tools]-[Pop-up Blocker]-[Turn On Pop-up Blocker], followed by selecting [Tools]-[Pop-up Blocker]-[Pop-up Blocker Settings] that becomes active, and open the [Pop-up Blocker Settings] window. In the opened window, add the address of VN-C215V4U as an allowed web site address.

5. When plug-in tools such as the Yahoo or Google toolbar are included in the Internet Explorer, disable the pop-up block function of these plug-in tools as well

Enter user name and password

User name and password entry will be required at the beginning.
There are 3 access authorization levels to VN-C215V4U. Factory settings of the unit are as follows.

User Name	Default Password	Description
admin	vn-c215	All operations and setting changes are allowed.
operator	vn-c215	Change of settings other than those related to network and maintenance are allowed
user	vn-c215	Viewing of images is allowed

● **Pages that users have access to**

Restrictions are placed on the pages that users have access to. In addition, links on the web pages are also displayed according to the access authority of the user.

- **admin**

Image	JPEG View Camera Encoding
External	Alarm Alarm Environment Motion Detection
Network	Basic Details Streaming Access Restrictions Time Password
Utility	Maintenance Miscellaneous
Status	Operation Settings

- **operator**

Image	JPEG View Camera Encoding
External	Alarm Alarm Environment Motion Detection
Utility	Miscellaneous
Status	Operation Settings

- **user**

Image	JPEG View
Utility	Miscellaneous

Memo:

- The Security Alarm screen appears before the top page is displayed. Press the [Yes] button to proceed.
  If you do not want this warning screen to be displayed, change the Internet Explorer settings as follows.
  - Open [Tools]−[Internet Options...]−[Security] and select the [Trusted sites] icon.
  - Next, press the [Custom Level] button, followed by selecting "Enable" under [Miscellaneous]−[Display mixed content].

Note:

- Do not stop the power or press the [RESET] button within 3 seconds after change of settings. The change may not be saved, and the camera settings may be initialized.

Setting Using Internet Explorer (continued)

JPEG View Page

This top page is displayed upon access using any of the user name “admin”, “operator” or “user”.

The current image is displayed as a still image.
Links to each page are found at the left end. The links displayed vary according to the user name. For example, in the case of “admin” or “operator”, 3 links, namely [JPEG View], [Camera] and [Encoding] will be displayed upon clicking [Image]. In the case of “user”, only [JPEG View] is displayed.

(The diagram below shows the JPEG View page upon access using “admin” or “operator”. The number of links on the left decreases during access using “user”, and the [Viewer...] button is not displayed.)

① **Reload**	Press this button to refresh the JPEG image displayed. Clicking [JPEG View] or re-entering the Internet Explorer address will only display the page that is temporarily stored in the Internet Explorer, and JPEG images may not be refreshed in this case. To refresh JPEG images using the above operations, change the Internet Explorer settings as follows. ● Open [Tools]−[Internet Options...]−[General], click the [Settings] button under [Temporary Internet Files], and select "Every visit to the page". **Note:** ● When a firewall is installed between VN-C215V4U and the computer, JPEG images may not be displayed on the JPEG View page of the web browser. For such systems, check the JPEG images using the built-in viewer. The built-in viewer is able to cross the firewall (port translation).
② **Viewer...**	This is displayed upon access to the JPEG View page using "admin" or "operator". Click this button to start built-in viewer. Security warning screen will be displayed. Press the [OK] or [Yes] button to launch the built-in viewer. Do not click on the [Viewer...] button over and over again while leaving the warning screen unattended. When this button is pressed for the first time on the operating PC, the built-in viewer will be installed on the computer. **Memo:** ● Refer to "Operation of Built-in Viewer" (☞ Pg. 70) on procedures to install the built-in viewer on the computer and ways of using the built-in viewer.

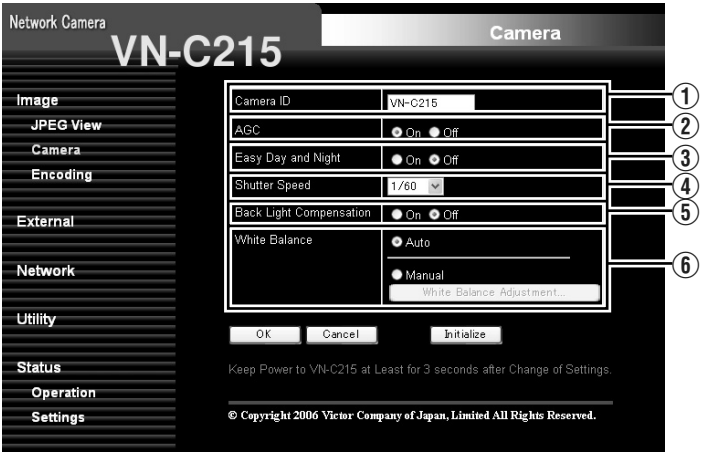
Setting Using Internet Explorer (continued)

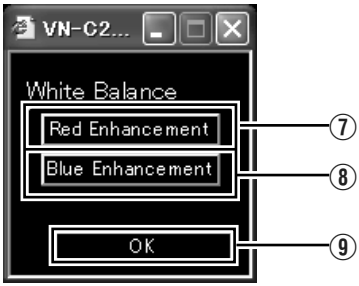
Camera Page

This page is for setting the camera's parameters.

This page can be used during access using "admin" or "operator".

- Press the [OK] button to enable the new settings upon changing.
- If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the current value.
- To restore the setting of this page to the factory setting, press [Initialize] button.





① **Camera ID**	Character strings entered here will be written to the JPEG comment segment (item name: camera). Refer to the [API Guide] on the file formats of JPEG.
② **AGC**	For setting AGC (Auto Gain Control). Setting to "On" enables automatic increase in sensitivity even when brightness of the object is insufficient. **Memo:** ● The image on the screen may appear grainy at dark places but this is not a malfunction.
③ **Easy Day and Night**	For turning On/Off the Easy Day and Night function. Select "On" when shooting an object where the illumination changes drastically as in day and night. When set to "On", the image automatically switches to color when the illuminance is high. It switches to black-and-white when the illuminance is low. When this item is set to "On", setting for ②AGC also becomes "On" at the same time. **Note:** ● When the camera is switched on under a low temperature, the image may become black-and-white for 10 seconds even with sufficient illuminance when the Easy Day and Night function is "On".
④ **Shutter Speed**	For setting the shutter speed. This is usually set to 1/60. To reduce flickering phenomenon under fluorescent lighting in a location with commercial power frequency of 50 Hz, set the shutter speed to 1/100. (Set to 1/60 for inverter illumination.) **[Setting values: 1/60, 1/100]**
⑤ **Back Light Compensation**	For turning On/Off the Back Light Compensation feature. Set this to "On" when there is a bright light source at the background of the object.
⑥ **White Balance**	For adjusting the white balance. Setting this to "Auto" enables automatic white balance adjustment, that can show natural color.
White Balance Adjustment...	For adjusting the red/blue colors when white balance is set to "Manual".
⑦ **Red Enhancement**	Emphasizes the red color in increasing density with every click.
⑧ **Blue Enhancement**	Emphasizes the blue color in increasing density with every click.
⑨ **OK**	For closing the [White Balance Adjustment...] window.

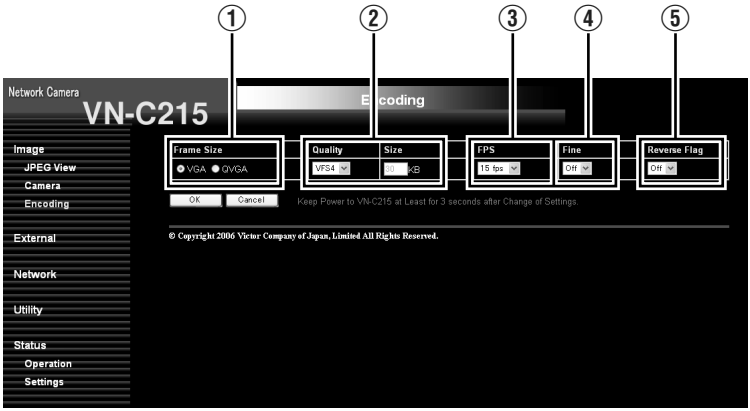
Setting Using Internet Explorer (continued)

Encoding Page

This page is for setting JPEG encoding parameters.

This page can be used during access using “admin” or “operator”.

- Press the [OK] button to enable the new settings upon changing.
- If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the current value.
- When settings on this page is altered during playback using the built-in viewer, reboot the viewer.



① **Frame Size**	Select either VGA (640 x 480) or QVGA (320 x 240) as the frame size.
② **Quality/Size**	For specifying the rate control mode and target file size. When "VFS1" to "VFS7" is selected, the quantization table during JPEG encoding will be maintained and the file size will increase/decrease according to the input signals. Preset values will be displayed for the target file size. When recording JPEG data to a recorder with limited capacity, pay attention when making a selection for this item as the maximum recording time varies accordingly when the file size increases/decreases. When "AFS" is selected, encoding will be performed such that the average size of multiple JPEG images is the target file size. (When "AFS" is selected, input of target file size will be enabled.)
③ **Frame Rate**	For specifying the number of frames to encode per second. VN-C215V4U is limited in its processing capacity and the specified frame rate may not be realized depending on the settings of ①[Frame Size] and ②[Quality/Size]. In particular, when the specified target file size is large, the upper limit of the frame rate drops. An example of settings for which a total frame rate of 30 fps can be realized is as follows. Frame Size : VGA Picture Quality : VFS4 Frame Rate : 30 fps (The maximum bit rate from VN-C215V4U is about 9 Mbps.)
④ **Fine**	Each video frame is made up of 2 fields. When Fine is set to "On", the 2 fields can be used as is. When Fine is set to "Off", the frame is formed using only one of the fields, hence preventing the image from blurring even when the object is moving. This feature is enabled when "VGA" is selected for the ① [Frame Size] item.
⑤ **Reverse Flag**	Flags specified here will be written to the JPEG comment segment. Switching this item does not flip the image data upside down. Refer to the [API Guide] on the file formats of JPEG.

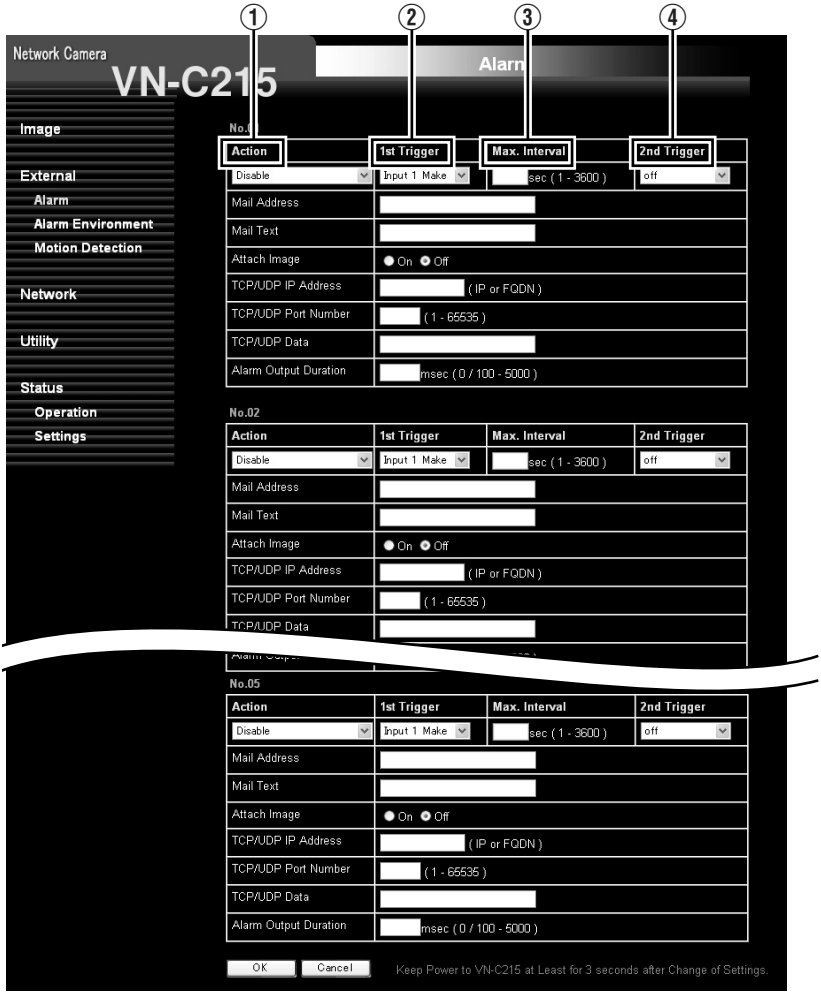
Setting Using Internet Explorer (continued)

Alarm Page

This page is for setting actions when there is an alarm.
Up to 5 actions (No. 01 to No. 05) can be set.

This page can be used during access using “admin” or “operator”.

- Press the [OK] button to enable the new settings upon changing. Only items that are valid under the selected action will be saved. When “Disable” is selected for [Action], all setting items will be restored to their default values.
- If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the current value.



① **Action**	For specifying the type of action. Disable : Zero activation. Mail : Send via e-mail. Specify the recipient's mail address. The title of the mail will appear as [Alarm from VN-C215] and the sender as [Camera ID]. Enter the message to send in [Mail Text]. Input of up to 127 alphanumeric characters is allowed. To attach the latest image to the mail, set image attachment to "On". FTP : Send pre-/post-recorded JPEG files via FTP. See the Alarm Environment Page for details on pre-/post-recording and FTP server settings. (☞ Pg. 48) The maximum transmission rate of FTP is 1 Mbps. If a new FTP trigger occurs during post-recording, the recorded portion is treated as pre-recording and a new post-recording starts. During FTP transmission after finishing the post-recording, a new post-recording starts if a new FTP trigger occurs. TCP : Send the character string entered in the [TCP/UDP Data] field to the destination specified in [TCP/UDP IP Address] and [TCP/UDP Port Number] via TCP. UDP : Send the character string entered in the [TCP/UDP Data] field to the destination specified in [TCP/UDP IP Address] and [TCP/UDP Port Number] via UDP. TCP/UDP Data : Input of up to 127 alphanumeric characters. Output1 Make : Change Alarm Output 1 to Make. Output2 Make : Change Alarm Output 2 to Make. Output1 Break : Change Alarm Output 1 to Break. Output2 Break : Change Alarm Output 2 to Break. **Memo:** ● Set the alarm output time in the [Alarm Output Duration] field.(☞ Pg. 50)
② **1st Trigger**	Specifies the first trigger to be activated. Alarm input ("Make") , alarm input ("Break") or "Motion Detection" can be selected. **Memo:** ● When the second trigger is turned "Off", only the first trigger will be activated. ● When "Motion Detection" is selected as the first trigger, "Max.Interval" and "2nd Trigger" cannot be selected.
③ **Max.Interval**	Valid only when the first and second triggers have been specified. It dictates (determines) the maximum interval between the first and second triggers. Activation will take place only if the interval between first and second triggers is less than the maximum interval.
④ **2nd Trigger**	Specifies the second trigger to be activated. Either alarm input ("Make") or alarm input ("Break") can be selected. Unlike the first trigger, "Motion Detection" is not available as a choice.

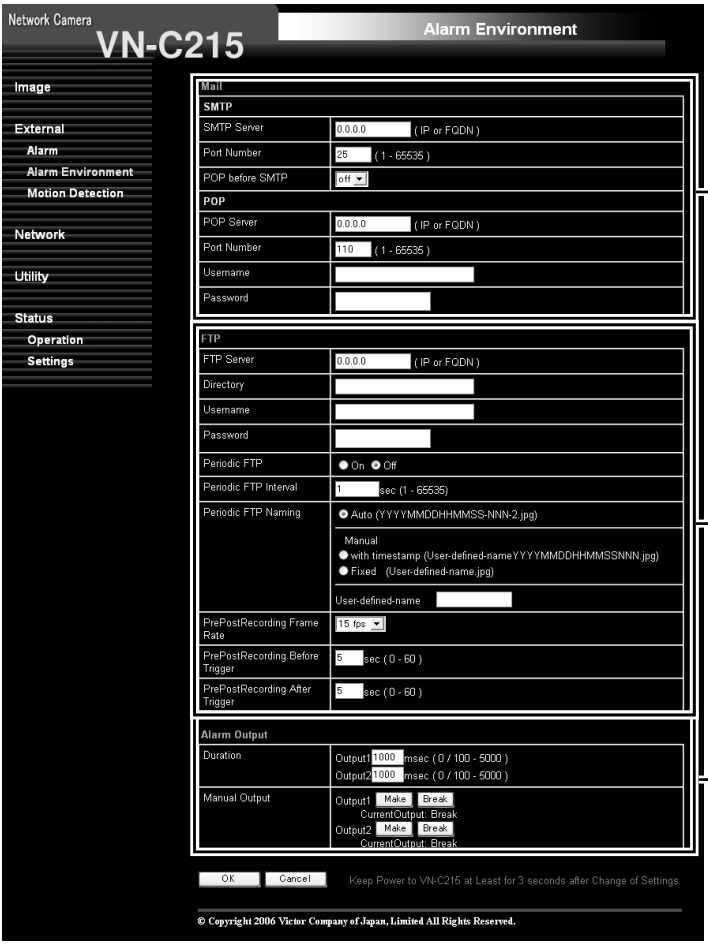
Setting Using Internet Explorer (continued)

Alarm Environment Page

This page is for setting alarm-related environments.

This page can be used during access using “admin” or “operator”.

- Press the [OK] button to enable the new settings upon changing.
- If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the current value.



① **Mail**	For setting the mail environment when [Mail] is specified as an action of the Alarm page. [SMTP] and [POP] can be used. Configure only the [SMTP] settings in usual circumstances. Configure the [POP] settings as well if [POP before SMTP] is enabled. In addition, if FQDN is set for [SMTP Server], etc., configure also the DNS server settings on the Basic page. (☞ Pg. 54) **Memo:** **What is FQDN (Fully Qualified Domain Name)?** This is a fully qualified domain name that indicates a notation method of describing the entire host or domain name on the TCP/IP network without abbreviating. For example, if the host name is AwwwB and the domain name is Avictor.co.jpB, then this will be denoted as Awww.victor.co.jpB in FQDN.
② **FTP**	For setting the FTP environment when [FTP] is specified as an action of the Alarm page. This is common with the FTP environment when using [Periodic FTP] within this page. When [Directory] is left blank, FTP transfer will be performed to the home directory of the FTP server. To enable FTP transfer to a directory below the home directory, set the directory name in [Directory]. Delimit the directory using "/". Example: subdir1/subdir2 Destination directory of FTP transfer will be dependent on the FTP server if "/" is added at the beginning. Setting [Periodic FTP] to "On" enables transfer of the latest images to the FTP server at regular intervals. Specify the interval in units of seconds in [Periodic FTP Interval]. Select a type from the three types of Periodic FTP file names. When "Auto" is selected, file names are generated from the year, month, day, hour, minute, second, and number. Example: 20051114161032-001-2.jpg When "with timestamp" is selected, file names are generated from the user-defined-name, year, month, day, hour, minute, second, and number. Example: Camera1_20051114161032001.jpg When "Fixed" is selected, user-defined character string can be used as a file name. **Note:** ● Selecting "Fixed" will overwrite JPEG files created in the FTP server for every FTP transfer. File transfer takes time in a narrow-band network. In this case, complete files may not be created if files are overwritten by the next FTP transfer before they are completed.

Setting Using Internet Explorer (continued)

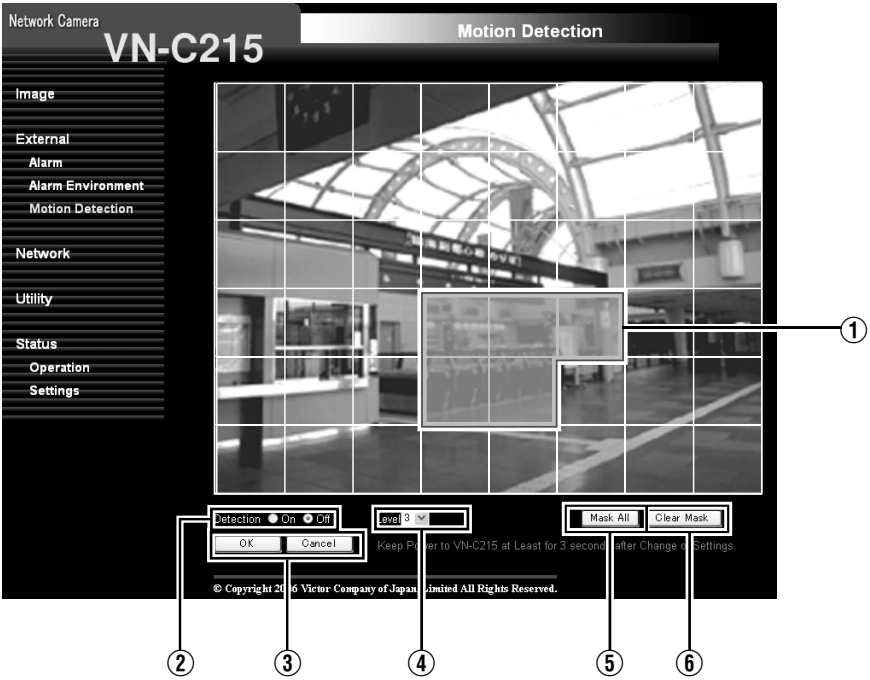
Alarm Environment Page (continued)

②FTP (continued)		[Pre Post Recording Frame Rate] is constrained by the frame rate as set on the Encoding page. (☞ Pg. 44) The actual frame rate used for transmission will be the upper limit on the Encoding page even if a value that is larger than the frame rate in the Encoding page is specified. The upper limits of [Pre Post Recording Before Trigger] and [Pre Post Recording After Trigger] are determined by settings on the Encoding page. In addition, [Frame Rate] is in a trade-off relationship with [Pre Post Recording Before Trigger] and [Pre Post Recording After Trigger]. In the case of a combination such that the input value cannot be realized, adjustments will be automatically made on the item that is not specified. The name of the file to be transmitted via FTP is made up of the action number, year, month, day, hour, minute, second, number and trigger flag. Example: 01-20050711152904-001-0.jpg The first 2 digits are the action number, and the following 14 digits denote the year, month, day, hour, minute and second. The 3 digits after the second hyphen is the number of the series of JPEG files to be sent via that FTP. The first file is numbered "000". The last digit denotes the trigger flag. This is displayed as "1" only for the JPEG file during a trigger input, and as "0" if otherwise.
③ Alarm Output		For setting the alarm output.
	Output Duration	For setting the output time of [Manual Output].
	Manual Output	For operating alarm output manually. The current output status appears on the right. When [Output Duration] is set to "0", pressing the [Make] button switches the alarm to Make output, while pressing the [Break] button switches the alarm to Break output. When [Output Duration] is set to a value other than "0", pressing the [Make] button switches the alarm to Make output only during the duration of the output, upon which it switches to Break output. When the output duration is set to a value other than "0", pressing the [Break] button switches the alarm to Break output only during the duration of the output, upon which it switches to Make output.

Motion Detection Page

Page for setting motion detection.

- The area valid for motion detection is displayed in blue.
- The area where motion is detected is displayed in red.



Setting Using Internet Explorer (continued)

Motion Detection Page (continued)

① **Display Screen**	The screen is divided into blocks of 8 x 6. Use this to set whether to mask each block. All blocks are masked in the default setting. The block turns blue when it is clicked, indicating that it is unmasked. Click again to return to the masked state. Press the [OK] button to enable this setting. Use the [Mask All] button to mask all blocks. Use the [Clear Mask] button to unmask all blocks.
② **Detection**	For setting motion detection to On/Off. Press the [OK] button to enable this setting.
③ **OK/Cancel**	To enable the new parameters, press the [OK] button. Press the [Cancel] button to cancel the change.
④ **Level**	For setting the sensitivity of motion detection. When the number is large, the detection sensitivity rises and hence it is sensitive. Press the [OK] button to enable this setting.
⑤ **Mask All**	Masks all blocks and enables the current motion detection and detection sensitivity settings. Press the [OK] button to enable this setting.
⑥ **Clear Mask**	Unmasks all blocks and enables the current motion detection and detection sensitivity settings. Press the [OK] button to enable this setting.

Memo:

- The area display position serves as a reference. Ensure to perform operation check.
- The screen is divided into 48 (8 x 6) blocks. Set the angle of view such that multiple blocks are used to set the size of the object for motion detection.

Note:

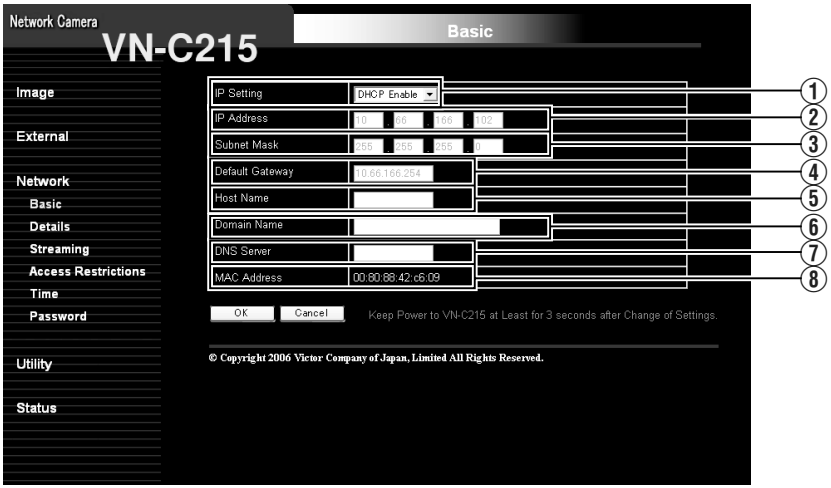
- Flicker of fluorescent lights may cause malfunction during motion detection.
- Changes in brightness due to lighting may be detected as motion.
- The motion detection feature is not intended to prevent theft or fire. This feature may not function properly depending on the conditions of the object and settings. Our company shall not be liable for any accident or damage that occurs.

Basic Page

This page is for performing basic setting related to the network.

This page can be used during access using “admin”.

- Press the [OK] button to enable the new settings upon changing.
- If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the current value.
- When settings of the Basic page is changed, all services that are currently running will end immediately. For example, when changes are made to the Basic page during JPEG distribution, distribution will be discontinued and TCP will be disconnected.



Setting Using Internet Explorer (continued)

Basic Page (continued)

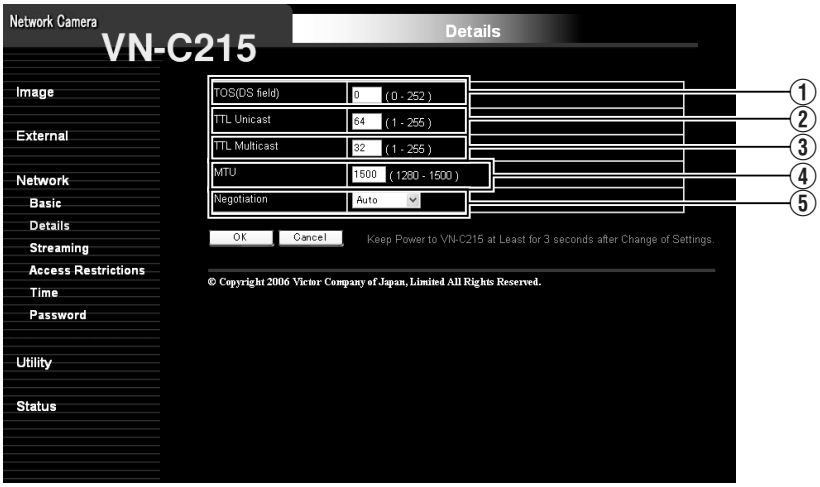
① **IP Setting**	For setting the DHCP client function. Ensure to connect VN-C215V4U to a network environment with a DHCP server when enabling the DHCP settings. If the DHCP server does not exist when DHCP is set to "Enable", VN-C215V4U will start running with the 192.168.0.2 IP address and 255.255.255.0 subnet mask in about 2 minutes after startup. Refer to "IP Address Settings" (☞ Pg. 31) for the IP address.
② **IP Address**	For setting the IP address of VN-C215V4U.
③ **Subnet Mask**	For setting the subnet mask of VN-C215V4U.
④ **Default Gateway**	For setting the default gateway of VN-C215V4U. Set as "0.0.0.0" when a default gateway is not set.
⑤ **Host Name**	For setting the host name of VN-C215V4U. Specify name using alphanumeric characters, hyphen (-) or period (.). Underscores (_) cannot be used.
⑥ **Domain Name**	For setting the domain name. Specify name using alphanumeric characters, hyphen (-) or period (.). Underscores (_) cannot be used.
⑦ **DNS Server**	For setting the address of the DNS server.
⑧ **MAC address**	The MAC address of VN-C215V4U is displayed in a hexadecimal number.

Details Page

This page is for performing detailed network setting.

This page can be used during access using “admin”.

- Press the [OK] button to enable the new settings upon changing.
- If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the current value.



① **TOS(DS field)**	For setting the TOS value of IP packets in which JPEG is stored. The upper 6 bits out of 8 bits in TOS value belong to DSCP. This upper 6 bits can be set. The lower 2 bits are “0”. For example, when “255” is entered, the lower 2 bits are converted to “0”, so “252”is set. TOS values are used in networks that support priority control. By setting priority control to the network switch, routing can be done using packet with bigger TOS value as first priority.
② **TTL Unicast**	For setting the TTL value of JPEG packets that are to be sent via TCP.
③ **TTL Multicast**	For setting the TTL value of JPEG packets that are to be sent via multicast.
④ **MTU**	For setting the maximum packet size for storing JPEG. [Setting range: 1280 - 1500]
⑤ **Negotiation**	For setting the negotiation of the network. When a value other than “Auto” is selected, do not set the network device to be connected to “Auto”. Ensure that it is set to the same value as VN-C215V4U.

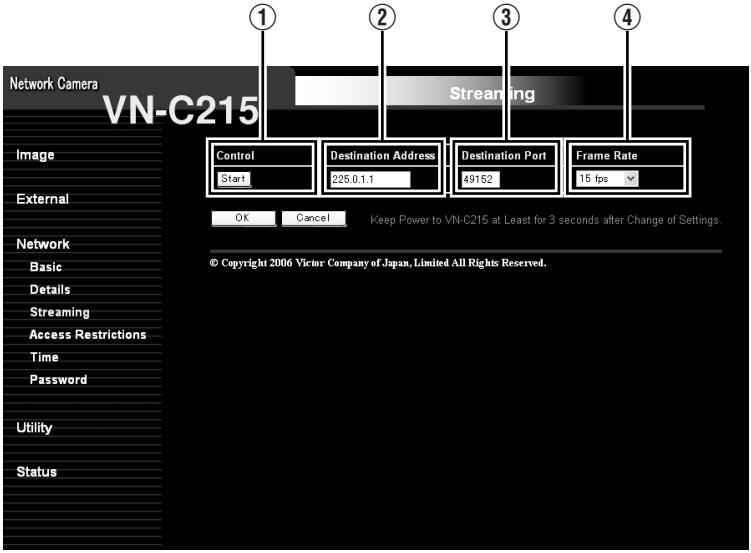
Setting Using Internet Explorer (continued)

Streaming Page

This page is for setting manual multicast transmission.

This page can be used during access using “admin”.

- Press the [OK] button to enable the new settings upon changing.
- If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the current value.



① **Control**	For starting or stopping streaming. Parameters that are set on the Streaming page will be saved when transmission is started upon pressing the [Start] button.
② **Destination Address**	For specifying the destination address. Specify the multicast address. When other devices that make use of multicast transmission exist, ensure that they are set to different multicast addresses each other.
③ **Destination Port**	For specifying the destination port number. Set to an even number for RTP compliance. Odd numbers cannot be used. When other devices that make use of multicast transmission exist, it is recommended that they are set to different port numbers each other. Multiple multicast streams cannot be received on 1 computer when there are duplicate port numbers.
④ **Frame Rate**	Specify the frame rate when performing multicast transmission. The actual frame rate used for transmission will be the frame rate on the Encoding page when a value that is larger than the frame rate in the Encoding page is specified. (☞ Pg. 44)

Note:

- When the power of VN-C215V4U shuts down accidentally during multicast transmission, transmission will restart automatically when VN-C215V4U is started up again.

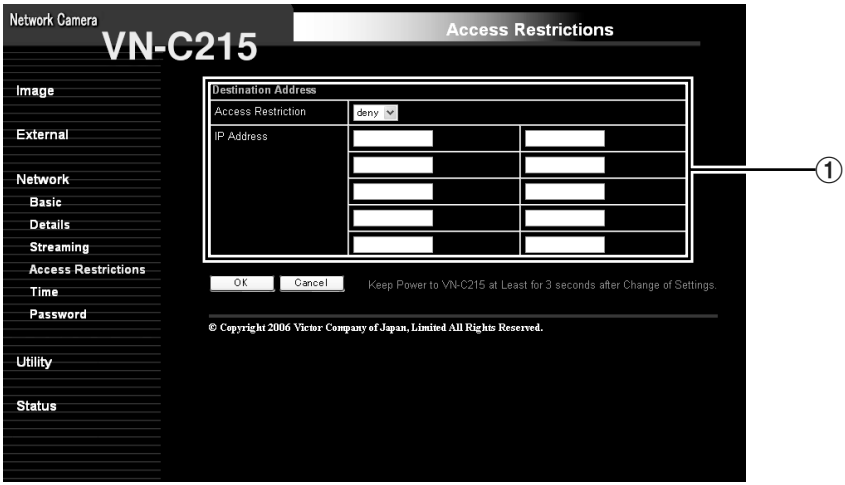
Setting Using Internet Explorer (continued)

Access Restrictions Page

This page is for setting client restrictions.

This page can be used during access using “admin”.

- Press the [OK] button to enable the new settings upon changing.
- If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the current value.
- This feature is targeted at JPEG acquisition. It does not impose restrictions on access via a web browser or use of API.



① **Destination Address**		Restrictions may be imposed on clients accessing VN-C215V4U using the IP address.
	Access Restrictions	When “deny” is selected, acquisition of JPEG via the IP address specified for the [IP Address] item will be denied. However, restrictions are not imposed on access to the Web Setting page. When “allow” is selected, acquisition of JPEG via the IP address specified for the [IP Address] item will be permitted. However, restrictions are not imposed on access to the Web Setting page.
	IP Address	When a multicast address is specified and “deny” is selected, VN-C215V4U will deny transmission to this multicast address. When a multicast address is specified and “allow” is selected, VN-C215V4U will only allow transmission to this multicast address and deny transmission to multicast addresses that are not stated in the [IP Address] field.

Note:

- Note that when “allow” is selected and all IP address fields are left blank, JPEG acquisition by all IP addresses will be denied. However, restrictions are not imposed on access to the Web Setting page. Additionally, VN-C215V4U will also deny access when instructions for JPEG transmission to the specified IP address are sent via API.

Memo:

- To specify a specific IP address range, enter a combination of the IP address and subnet mask in the [IP Address] field.
- Define the subnet mask using a bit length between 8 and 30.
  For example, a range between 192.168.0.0 and 192.168.0.255 is specified as 192.168.0.0/24 ([IP address]/[bit length of subnet mask]).

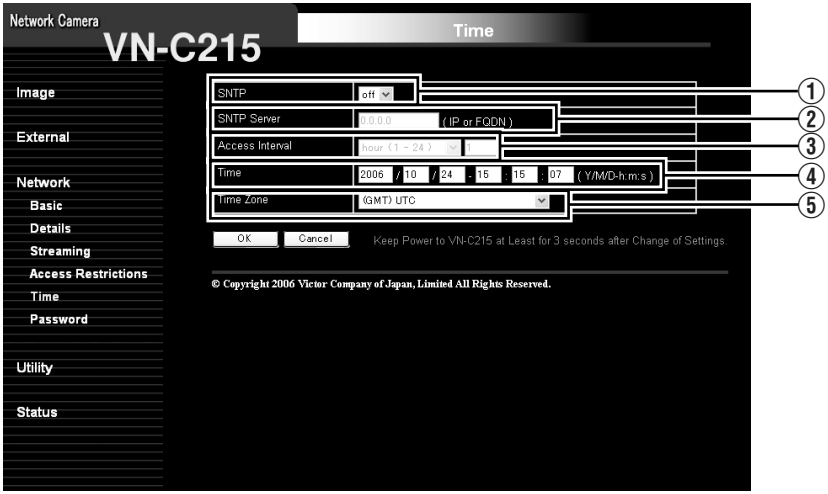
Setting Using Internet Explorer (continued)

Time Page

This page is for setting time.

This page can be used during access using “admin”.

- Press the [OK] button to enable the new settings upon changing.
- If the [OK] button is pressed upon entering an invalid value, a warning message will appear and the entry will be denied. Press the [Cancel] button to restore the invalid entry to the current value.



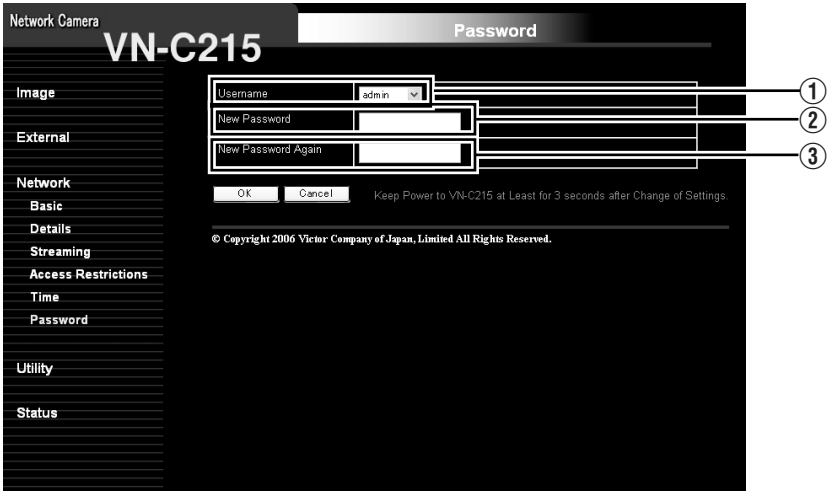
① **SNTP**	For setting the SNTP client function. Access to acquire time from the specified SNTP server at regular intervals is possible when this item is set to “On”. In addition, time will be recorded in the JPEG headers distributed by VN-C215V4U. Discontinuity in JPEG header’s time may occur immediately before and after acquiring time from the SNTP server.
② **SNTP Server**	For setting the IP address of SNTP Server.
③ **Access Interval**	For setting the time interval for access to the SNTP Server.
④ **Time**	Displays the time on the clock of VN-C215V4U. The clock time can be changed by entering a value. (However, second value cannot be specified.) In addition, time will be recorded in the JPEG headers distributed by VN-C215V4U. Discontinuity may occur in the JPEG header’s time immediately before and after changing the time.
⑤ **Time Zone**	For setting the time zone.

Password Page

This page is for setting the password.

This page can be used during access using “admin”.

- Press the [OK] button to enable the new settings upon changing.



① **Username**	Select a user name.
② **New Password**	Enter a new password. Passwords shall be at least 4 characters and not more than 16 characters. VN-C215V4U is case sensitive.
③ **New Password Again**	Enter again to confirm the new password.

Note:

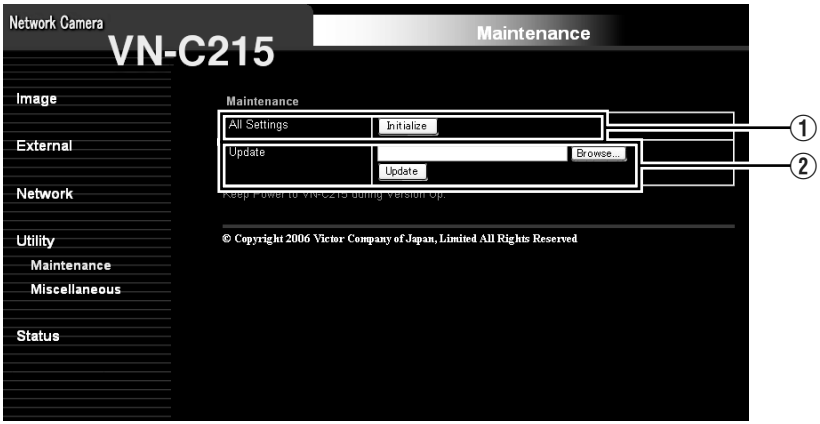
- Be sure to handle the password carefully in case you forget it.
- In the event that you forget the password, please consult your nearest JVC dealer.

Setting Using Internet Explorer (continued)

Maintenance Page

This page is for maintenance purposes.

This page can be used during access using “admin”.



① **All Settings** “Restores all settings to their default values”	Restores all setting items to their factory settings and reboots the unit. (It takes about 1 minute for the camera to initialize and reboot.) Passwords will also be initialized. However, the built-in clock of VN-C215V4U will not be affected. JPEG transmission and all others services that are running will be discontinued.
② **Update**	Upgrades the firmware version of VN-C215V4U and reboots the unit. The VN-C215V4U settings will be saved. Copy the new firmware file to the computer on which Internet Explorer is used, and specify this file using the [Browse...] button. Press the [Update] button to start upgrading the version. JPEG transmission and all others services that are running will be discontinued. Update may take several minutes. A message will be displayed on the Internet Explorer when update is successfully completed. **Note:** ● Do not turn off the power when version upgrade is in progress. Turning off the power of the camera may cause it to malfunction.

List of Factory Settings of Each Page

■ Camera Page

Item	Factory Settings
Camera ID	VN-C215
AGC	On
Easy Day and Night	Off
Shutter Speed	1/60
Back Light Compensation	Off
White Balance	Auto

■ Encoding Page

Item	Factory Settings
Frame Size	VGA
Quality/Size	VFS4
FPS	15 fps
Fine	On
Reverse Flag	Off

■ Alarm Page

Item	Factory Settings
Action	Disable
1st Trigger	Input 1 Make
Max.Interval	—
2nd Trigger	Off
Mail Address	—
Mail Text	—
Attach Image	Off
TCP/UDP IP Address	—
TCP/UDP Port Number	—
TCP/UDP Data	—
Alarm Output Duration	—

■ Alarm Environment Page

Item	Factory Settings
SMTP Server	0.0.0.0
Port Number	25
POP before SMTP	Off
POP Server	0.0.0.0
Port Number	110
Username	—
Password	—
FTP Server	0.0.0.0
Directory	—
Username	—
Password	—
Periodic FTP	Off
Periodic FTP Interval	1
Periodic FTP Naming	Auto
Pre Post Recording Frame Rate	15 fps
Pre Post Recording Before Trigger	5 sec
Pre Post Recording After Trigger	5 sec
Output Duration	1000 msec
Manual Output1	Break
Manual Outpu2	Break

■ Motion Detection Page

Item	Factory Settings
Mask	Mask All
Detection	Off
Level	3

Setting Using Internet Explorer (continued)

List of Factory Settings of Each Page (continued)

■ Basic Page

Item	Factory Settings
IP Setting	DHCP Enable
IP Address	192.168.0.2
Subnet Mask	255.255.255.0
Default Gateway	192.168.0.254
Host Name	—
Domain Name	—
DNS Server	0.0.0.0

■ Details Page

Item	Factory Settings
TOS(DS field)	0
TTL Unicast	64
TTL Multicast	32
MTU	1500
Negotiation	Auto

■ Streaming Page

Item	Factory Settings
Destination Address	225.0.1.1
Destination Port	49152
Frame Rate	15 fps

■ Access Restrictions Page

Item	Factory Settings
Access Restrictions	deny
IP Address	—

■ Time Page

Item	Factory Settings
SNTP	Off
SNTP Server	0.0.0.0
Access Interval	hour/1
Time Zone	(GMT)UTC

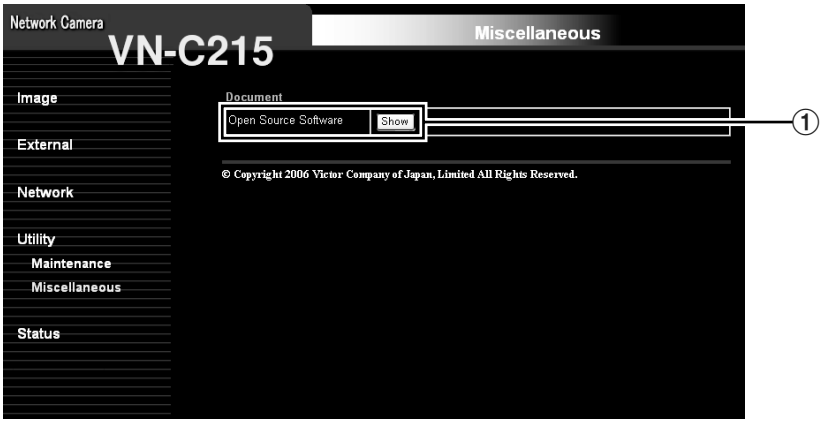
■ Password Page

Item	Factory Settings
Username	“admin”
Current Password	Not Displayed Default passwords are: “admin” : vn-c215 “operator” : vn-c215 “user” : vn-c215

Miscellaneous Page

This page is for acquiring information.

This page can be used during access using “admin”, “operator” and “user”.



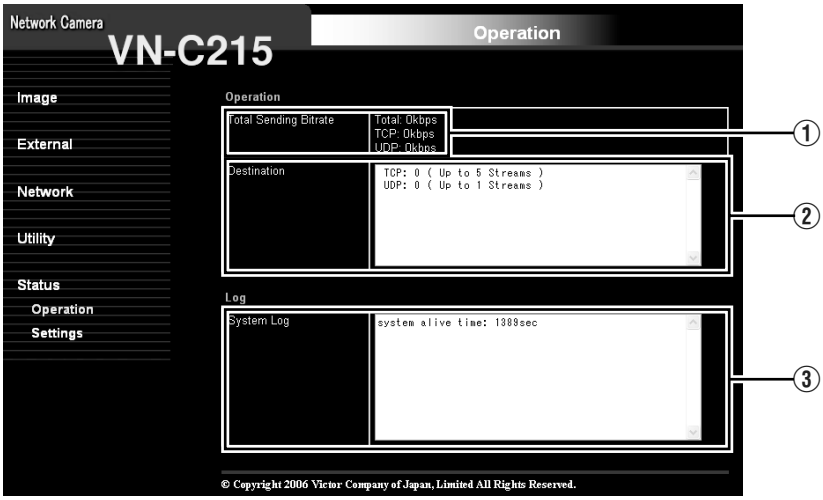
① **Open Source Software**	Press the [Show] button to display the software information used at VN-C215V4U.

Setting Using Internet Explorer (continued)

Operation Page

Displays the operating status of VN-C215V4U.

This page can be used during access using “admin” or “operator”.

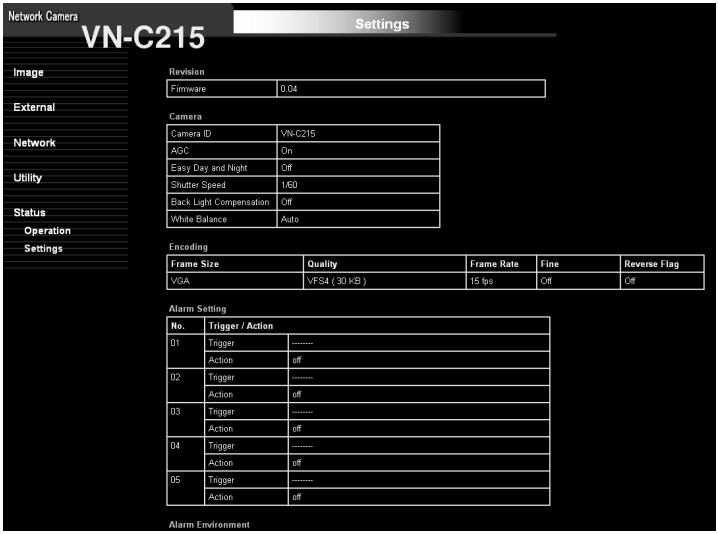


① **Total Sending Bitrate**	Displays the total TCP/UDP bit rate sent by VN-C215V4U as well as the individual bit rates.
② **Destination**	Displays the destination that VN-C215V4U is sending data to.
③ **System Log**	Displays the following information. ● Number of seconds after startup ● Alarm information

Settings Page

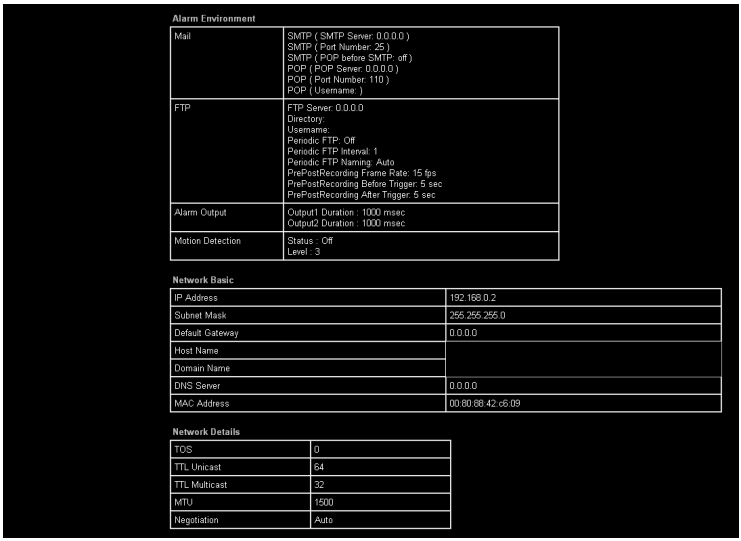
This page displays the version information and settings of VN-C215V4U.

This page can be used during access using “admin” or “operator”.



Setting Using Internet Explorer (continued)

Settings Page (continued)



Alarm Environment

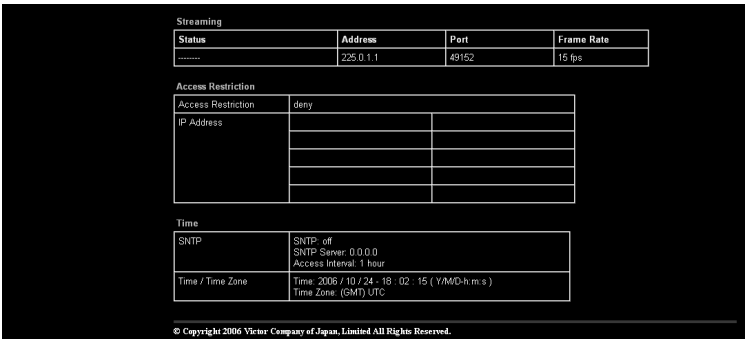
Mail	SMTP (SMTP Server: 0.0.0.0) SMTP (Port Number: 25) SMTP (POP before SMTP: off) POP (POP Server: 0.0.0.0) POP (Port Number: 110) POP (Username:)
FTP	FTP Server: 0.0.0.0 Directory: Username: Periodic FTP: Off Periodic FTP Interval: 1 Periodic FTP Naming: Auto PrePostRecording Frame Rate: 15 fps PrePostRecording Before Trigger: 5 sec PrePostRecording After Trigger: 5 sec
Alarm Output	Output1 Duration : 1000 msec Output2 Duration : 1000 msec
Motion Detection	Status : Off Level : 3

Network Basic

IP Address	192.168.0.2
Subnet Mask	255.255.255.0
Default Gateway	0.0.0.0
Host Name	
Domain Name	
DNS Server	0.0.0.0
MAC Address	00:80:88:42:c6:09

Network Details

TOS	0
TTL Unicast	64
TTL Multicast	32
MTU	1500
Negotiation	Auto



Streaming

Status	Address	Port	Frame Rate
-------	225.0.1.1	49152	15 fps

Access Restriction

Access Restriction	deny	
IP Address		

Time

SNTP	SNTP: off SNTP Server: 0.0.0.0 Access Interval: 1 hour
Time / Time Zone	Time: 2006 / 10 / 24 - 18 : 02 : 15 (Y/M/D-h:m:s) Time Zone: (GMT) UTC

© Copyright 2006 Victor Company of Japan, Limited All Rights Reserved.

Operation of Built-in Viewer

Using the built-in viewer enables display of a series of images, one-shot recording of images and receiving of alarm information.

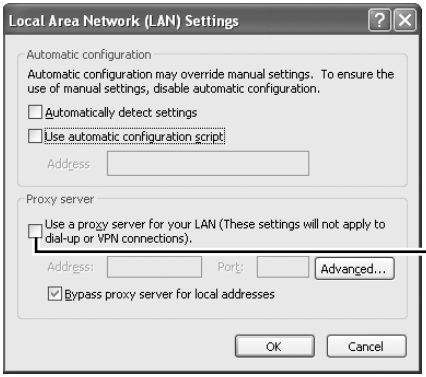
- ♦ Setting Up the Internet Explorer (☞ Pg. 71)
- ♦ Installing the built-in viewer (☞ Pg. 73)
- ♦ Screen Configuration of Built-in Viewer (☞ Pg. 74)
- ♦ Built-in Viewer Settings (☞ Pg. 76)
- ♦ Quitting the Built-in Viewer (☞ Pg. 79)
- ♦ Shortcut for Built-in Viewer (☞ Pg. 80)

Setting Up the Internet Explorer

1. Launch the Internet Explorer on the computer

2. When proxy setting is enabled in the Internet Explorer, follow the steps below to disable the proxy of the Internet Explorer

- Select in the order of [Tools]-[Internet Options...]-[Connections]-[LAN Setting], followed by deselecting the check for “Use a proxy server for your LAN” in [Proxy Server] of the [Local Area Network(LAN)Settings] window.

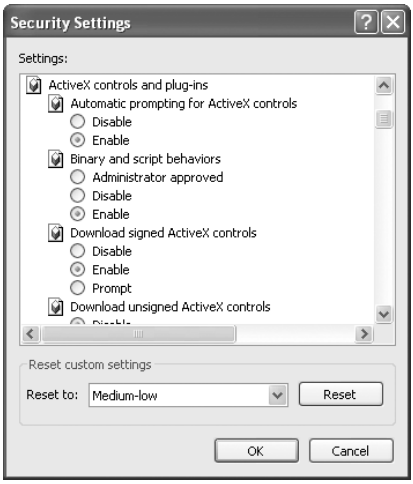

Local Area Network (LAN) Settings
Automatic configuration
Automatic configuration may override manual settings. To ensure the use of manual settings, disable automatic configuration.
Automatically detect settings
Use automatic configuration script
Address
Proxy server
Use a proxy server for your LAN (These settings will not apply to dial-up or VPN connections).
Address:
Port:
Advanced...
Bypass proxy server for local addresses
OK
Cancel
Deselect the check

Operation of Built-in Viewer (continued)

Setting Up the Internet Explorer (continued)

3. If Active X controls and plug-ins of the Internet Explorer is disabled, follow the steps below to enable it

- Click [Trusted sites] under [Tools]-[Internet Options...]-[Security]. Upon doing so, the [Sites...] button directly below becomes active. Click on this button and deselect the check for [Require server verification(https:) for all sites in this zone] in the displayed window. Next, add the IP address of VN-C215V4U. If the setting is factory default, add the following web site to the zone.
  http://192.168.0.2
- Click [Trusted sites] under [Tools]-[Internet Options...]-[Security]. Select the [Custom Level] button and open the [Security Settings] window. From the opened window, set all the items in [Active X controls and plug-ins] to [Enable].



4. If the pop-up block function of the Internet Explorer is enabled, follow the steps below to disable it

※ The built-in viewer cannot be used when the pop-up block function is “Enable”.

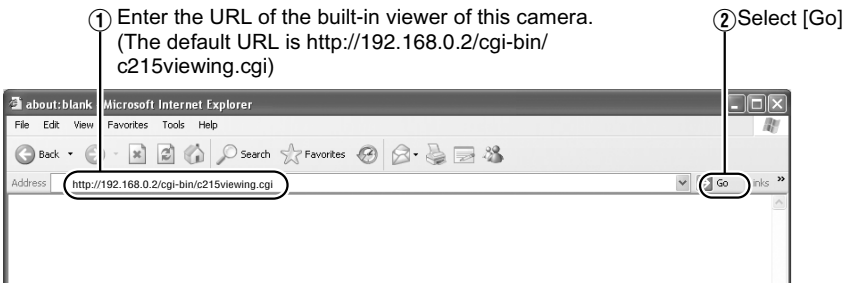
- Selecting [Tools]-[Pop-up Blocker]-[Turn Off Pop-up Blocker] permits all sites.
- To allow only specific sites such as VN-C215V4U, select [Tools]-[Pop-up Blocker]-[Turn On Pop-up Blocker], followed by selecting [Tools]-[Pop-up Blocker]-[Pop-up Blocker Settings] that becomes active, and open the [Pop-up Blocker Settings] window. In the opened window, add the address of VN-C215V4U as an allowed web site address.

5. When plug-in tools such as the Yahoo or Google toolbar are included in the Internet Explorer, disable the pop-up block function of these plug-in tools as well

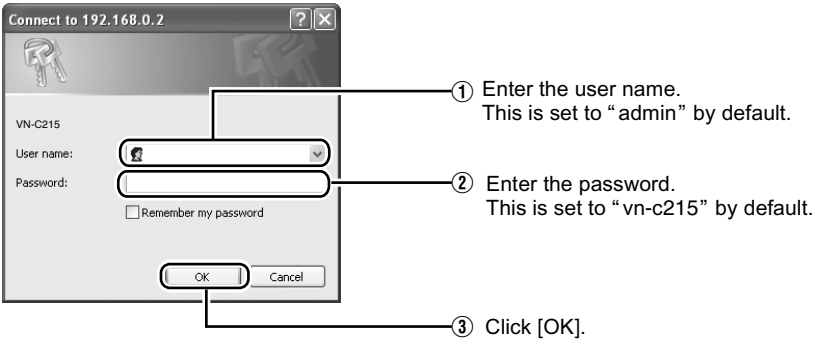
Installing the built-in viewer

1. Enter the URL of the built-in viewer in the address field of Internet Explorer

For example, if the IP address of VN-C215V4U is 192.168.0.2, enter as follows:
http://192.168.0.2/cgi-bin/c215viewing.cgi


① Enter the URL of the built-in viewer of this camera. (The default URL is http://192.168.0.2/cgi-bin/c215viewing.cgi)
② Select [Go]
about:blank - Microsoft Internet Explorer
File Edit View Favorites Tools Help
Back Search Favorites
Address
http://192.168.0.2/cgi-bin/c215viewing.cgi
Go
Links

2. Enter the user name and password



3. The viewer is installed and launched

Operation of Built-in Viewer (continued)

Screen Configuration of Built-in Viewer

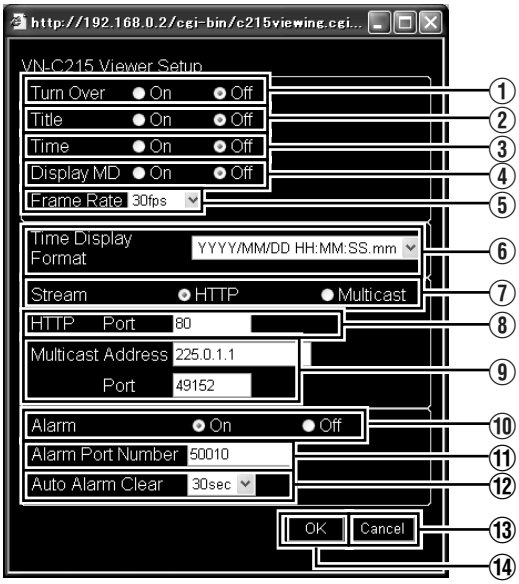
- VN-C215V4U is set to encode at 15 fps by default.

① **Alarm**	Appears blinking when alarm packets are sent from VN-C215V4U to the computer. The alarm will continue blinking until the auto clear operation of the alarm is performed. Clicking the blinking button turns the light off.
② **Display Size**	Switches the display size.(VGA or QVGA)
③ **Pause**	Pauses/Resumes playback of images.
④ **Capture**	Captures the currently displayed image on the computer. Images captured will be stored as a JPEG file in the " C215_JPEG" directory that is created under [My Document] of the computer. The file name is made up of year/month/day, hour/minute/second and the millisecond. The time denoted by the file name is based on the time at the computer and not the internal clock of VN-C215V4U. This feature is unable to capture motion images.
⑤ **Setup**	Displays the setting window of the built-in viewer. This setting screen is used to set the built-in viewer as a software on the computer. **Note:** ● Settings on this setting screen are not applied as settings to the VN-C215V4U unit.

Operation of Built-in Viewer (continued)

Built-in Viewer Settings

The setting window of the built-in viewer will be displayed upon clicking the [Setup] button.



① **Turn Over**	Select "On" to display the image upside down. When this is set to "On", inversion processes that are applied may increase the load on the computer. If the computer's capacity is inadequate, the frame rate will deteriorate during transmission via TCP and noise will occur due to losses during packet reception via multicast. To use this feature with inversion set to "On", make sure that you use a computer with adequate performance, or reduce the processing load by adjusting the Encoding settings (File Size, Frame Rate, Frame Size). (☞ Pg. 44)
② **Title**	Select "On" to display the Camera ID. The camera ID can be set on the Camera page of the VN-C215V4U unit. (☞ Pg. 42)
③ **Time**	Select "On" to display the time. This indicates the time that is stored in the JPEG data.
④ **Display MD**	Selecting "On" displays the area for which motion is detected in a different color.

⑤ **Frame Rate**	For selecting the acquisition frame rate of the viewer. In the case of a 1-to-1 connection between VN-C215V4U and the viewer, it is recommended that the frame rate of the viewer and VN-C215V4U be set to the same value. To play back multiple viewers at different frame rates, set the frame rate accordingly at the individual viewer. The frame rate set at the VN-C215V4U unit will be the upper limit to the acquisition frame rate of the viewer. For example, when VN-C215V4U is set to "15 fps", transmission will only be possible at 15 fps even when the client requests for 30 fps. Alternatively, when VN-C215V4U is set to "15 fps" and 10 fps is requested by the client, data will be sent at 7.5 fps to enable transmission at even intervals. When acquisition is performed via HTTP, the frame rate from VN-C215V4U is decided by the setting of built-in viewer. When acquisition is performed via multicast, all the frames transmitted from VN-C215V4U will be played back regardless of the frame rate settings in the built-in viewer. **Note:** ● This is different from the frame rate setting at the VN-C215V4U unit. Set to a rate such that the CPU load of the computer does not exceed 80 %. When the CPU is overloaded, the computer may not function properly.
⑥ **Time Display Format**	Select the format for displaying time. YYYY, MM, DD denote year, month and day respectively while HH, MM, SS denote hour, minute and second respectively.
⑦ **Stream**	For selecting the protocol when the viewer acquires data from VN-C215V4U. When "HTTP" is selected, recovery will be performed via resending when packet loss occurs. VN-C215V4U may be monitored using multiple viewers when "Multicast" is selected. Additionally, start multicast sending on the Streaming page of the VN-C215V4U unit when playing back via multicast. **Note:** ● When the built-in viewer is launched with "Multicast" specified, a Windows firewall warning may be displayed. In this case, select "Unblock" and proceed. ● If "Block" is selected, the Windows firewall will block the multicast streams and playback of multicast at the viewer will fail.
⑧ **Http Port**	For specifying the TCP port number when the viewer sends a request to the VN-C215V4U unit. Use the default value (80) in normal circumstances. When the HTTP port number of the VN-C215V4U unit has been changed, set to the same number. Set the port number according to the firewall settings for a system where a firewall has been set up between the viewer and the VN-C215V4U unit.
⑨ **Multicast Address/ Port**	For specifying the multicast address and port number. This is enabled only when "Multicast" is selected for the⑦ [Stream] item. Specify the same value as the parameter that is set on the Streaming page of VN-C215V4U. (☞ Pg. 56)

Operation of Built-in Viewer (continued)

Built-in Viewer Settings (continued)

⑩ **Alarm (TCP Notification)**	When "On" is selected, the [Alarm] button blinks when an alarm notification is sent from VN-C215V4U via TCP. In order to use this feature, it is necessary to set the alarm action for sending the notification to VN-C215V4U via TCP. Set the destination of the alarm action to the IP address of the computer that is used to operate the built-in viewer, and set the [TCP/UDP Port Number] item to the same number as the ⑪[Alarm Port Number] item below. Setting in the [TCP/UDP Data] is ignored by built-in viewer.(☞ Pg. 46)
⑪ **Alarm Port Number**	For setting the port number for receiving the alarm notification from VN-C215V4U via TCP.
⑫ **Auto Alarm Clear**	For selecting the time out to turn off the blinking of [Alarm] button automatically.
⑬ **Cancel**	For canceling the changed settings and closing the setting screen.
⑭ **OK**	For saving the changed settings. Click [OK] to enable the new settings and restart the built-in viewer after closing the setting window.

Memo:

- The settings of the built-in viewer are stored in the Cookie file.

This setting screen is used to set the built-in viewer as a software on the computer, and not applied as settings to the VN-C215V4U unit. When settings are changed, press the [OK] button to exit and restart the viewer.

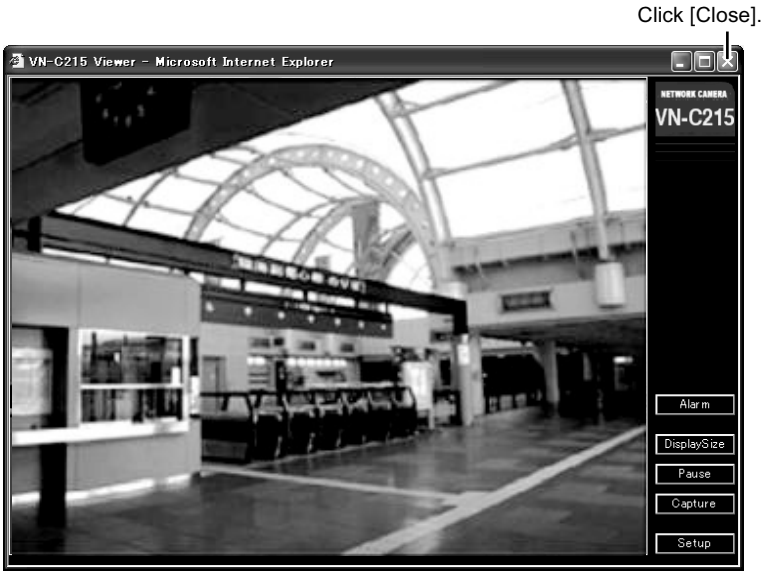
Memo:

Searching and deleting cookie files

- Enter the [Tools]–[Internet Options...]–[General] of the Internet Explorer and press the [Settings] button under [Temporary Internet Files]. A new [Settings] will appear. Press the [View Files...] button in this window. The [Temporary Internet Files] window opens up and a list of files will be displayed. The file named "cgi-bin/" in this list is the Cookie for the built-in viewer.
- Deleting this file also deletes the viewer settings. The viewer will start up in an initialized condition during the next launch.

Quitting the Built-in Viewer

To quit, press the [Close] button at the top right of the window.



- To restart the built-in viewer, launch the Internet Explorer and enter the URL of the built-in viewer in the address field.
  For example, if the IP address of VN-C215V4U is 192.168.0.2, enter as follows:

  http://192.168.0.2/cgi-bin/c215viewing.cgi

  - After the Security Warning screen appears, press the [OK] button to proceed.

Operation of Built-in Viewer (continued)

Shortcut for Built-in Viewer

Creating a shortcut for the built-in viewer on the Desktop screen of the computer saves you the trouble of having to enter the URL in the Internet Explorer.
Create the shortcut using the procedures below.

1. Launch the Internet Explorer

2. Right-click on Internet Explorer on the screen and select [Create Shortcut]

Click the [OK] button on the confirmation screen and a shortcut will be created on the Desktop screen.

3. Right-click on the shortcut icon on the Desktop screen and select Properties

The setting screen appears.

4. Enter the URL of the built-in viewer in the URL field

For example, if the IP address of VN-C215V4U is 192.168.0.2, enter as follows:

http://192.168.0.2/cgi-bin/c215viewing.cgi

5. Click the [OK] button to end

Clicking on the shortcut created will help to save you the trouble of having to enter the URL in the Internet Explorer.

Memo:

- Before starting up the built-in viewer using the shortcut, close all Internet Explorer windows. Starting up the built-in viewer using the shortcut while leaving other Internet Explorer windows opened may result in malfunction of the built-in viewer.

Troubleshooting

Symptom	Causes and Countermeasures	Reference Page
IP address of VN-C215V4U is unknown	● You can search for the VN-C215V4U unit using the attached ASearch ToolB. ● DHCP client is set to "On" in the default settings. ● When the DHCP client is set to "On" and VN-C215V4U is started up via a LAN in which a DHCP server does not exist, the startup will time-out after several minutes and the camera will run using the IP address "192.168.0.2".	☞ Pg. 36
The web page of VN-C215V4U cannot be displayed	Check the Internet Explorer settings. When a proxy server is in use, configure the proxy server settings of the Internet Explorer accordingly.	☞ Pg. 37
The built-in viewer cannot be installed	Check the Internet Explorer settings. The built-in viewer consists of a software component called ActiveX. When using the built-in viewer for the first time, the ActiveX is supposed to be installed. However, the installation may be rejected depends on the setting of the AntiVirus software. In such case, change the setting of the AntiVirus software, and then install the built-in viewer.	☞ Pg. 71
Authentication by VeriSign appears during installation of the built-in viewer	VeriSign's electronic signature is stored in the built-in viewer. For computers with a network environment that is connected to the Internet, the authenticity of the viewer can be verified via authentication by VeriSign.	—
A warning message appears upon starting up the built-in viewer	The built-in viewer consists of a software component called ActiveX. As other unsafe ActiveX are also found on the Internet, Internet Explorer may issue a warning message for security reasons. For this built-in viewer, press the OK button to proceed.	—
TCP images cannot be played back	The maximum number of TCP clients of VN-C215V4U is 5, and up to 5 built-in viewers can be connected to a VN-C215V4U unit. Make use of multicast to monitor areas beyond the above number. VN-C215V4U allows multicast transmission of up to 1 stream.	☞ Pg. 30

Troubleshooting (continued)

Symptom	Causes and Countermeasures	Reference Page
Multicast images cannot be played back	● Start multicast transmission manually from the Streaming page of VN-C215V4U. ● In the case of multicast reception at the built-in viewer, check that the multicast address and port number of the built-in viewer settings coincide with those on the Streaming page of VN-C215V4U. Make use of a network that supports IGMPv2 for multicast transmission. ● Multicast may be blocked by the WindowsXP firewall. When this occurs, perform the following to allow it to pass through. ● Double-click on [Windows Firewall] in [Start]–[Control Panel], click the [Add Por...] button under the Exception tab, followed by registering the port number in the port number field, for which you want it to pass through. Enter an arbitrary character string in the name field.	☞ Pg. 56 ☞ Pg. 76
The frame rate of the displayed image is low	● Check the settings on the Encoding page of the VN-C215V4U unit. ● Check the built-in viewer settings as well when a built-in viewer is in use. ● Frame rate will be constrained when the network bandwidth is narrow.	☞ Pg. 44 ☞ Pg. 76
A white zone appears in the built-in viewer.	● For some computers, a part of the Internet Explorer graphics may not appear and is left white. Perform following on the Internet Explorer. ● Right-click on the Desktop screen. If [Properties]–[Setup]–[Advanced]–[General]–[DPI Setting] is set to “Large size” or “Custom setting...”, select “Normal size” to resume normal drawing.	—
Unable to receive alarm notification at the computer via TCP/UDP	● Data may be blocked by WindowsXP firewall. When this occurs, perform the following to allow it to pass through. ● Double-click on [Windows Firewall] in [Start]–[Control Panel], click the [Add Por...] button under the Exception tab, followed by registering the port number in the port number field, for which you want it to pass through. Enter an arbitrary character string in the name field.	—

Specifications

Camera Unit

Image pickup device	:	1/4 inch Interline transfer CCD
Effective pixels	:	Approx. 380,000 pixels 768 (H) × 494 (V)

[Monitor Output]

Monitor output x 1 (75, 1 Vp-p)

Horizontal resolution	:	540 TV lines (typ.)
Minimum object illumination	:	2.5 lx (typ. 50 %, F1.3, wide-angle lens, AGC ON) 0.75 lx (typ. 25 %, F1.3, wide-angle lens, AGC ON) 1.4 lx (typ. 50 %, F1.3, wide-angle lens, Easy Day and Night ON) 0.4 lx (typ. 25 %, F1.3, wide-angle lens, Easy Day and Night ON)
Video S/N ratio	:	50 dB (typ. 50 %, AGC OFF)

[Network Output]

Image compression format	:	JPEG
Frame size	:	640 × 480 320 × 240
Network interface	:	RJ-45 100BASE-TX/ 10BASE-T/FULL/HALF/ auto negotiation supported

LAN Specifications

Compliant with IEEE802.3, IEEE802.3u and IEEE802.3af

Communication protocol	:	TCP/IP, UDP, HTTP, FTP, ICMP, ARP, RTP, DHCP, SNTP, SMTP, IGMP

General

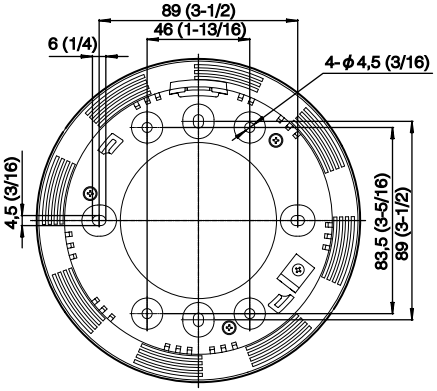
Alarm Input	:	No-voltage a contact input, NPN open collector input, low level, latch/momentary (500 ms and above) (Circuit current during low level: 0.3 mA; Applied voltage during high level: 3.3 V)
Alarm Output	:	NPN open collector output (Allowable applied voltage: 12 V; Allowable inflow current: 50 mA)
Internal memory	:	8 MB
Supply voltage	:	DC12 V or DC -48 V (Supply by power feeding device that supports Power over Ethernet)
Consumption current	:	0.5 A (Max.)
Ambient temperature	:	-10 ℃ to 50 ℃ (operation) 0 ℃ to 40 ℃ (recommended)
Ambient humidity	:	35 % RH to 85 % RH (without condensation)
Mass	:	Approx. 750 g

Attachments/Accessories

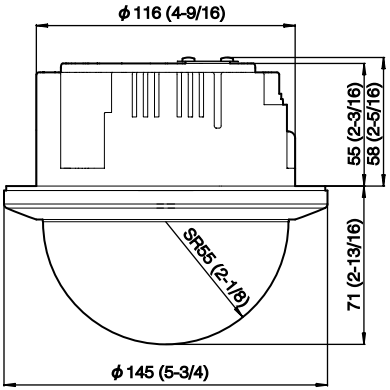
Start-up Guide 1
CD-ROM 1
Warranty Card 1
Service Information Card 1
Template 1

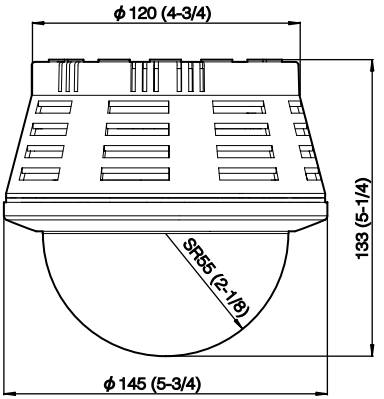
Dimension [Unit: mm(inches)]

♦ When cover is attached



♦ When embedded





※ Specifications and appearance of this unit and related products are subject to change for product improvement without prior notice.

VN-C215V4U
FIXED IP DOME CAMERA

JVC

© 2006 Victor Company of Japan, Limited

LST0526-001A